DOE, RFO Quarterly Environmental Restoration Compliance Action Report

First Quarter October - December FY1994

TABLE OF CONTENTS

2

3

EXECUTIVE SUMMARY

The stop work directive issued last quarter (August 1993) by the Environmental Protection Agency (EPA) and the Colorado Department of Health (CDH) on sections of the baseline risk assessment continues to be in affect for Operable Units (OUs) 3, 5, 6, and 7. In October 1993, OU 1 was specifically exempted from and grandfathered out of the new proposed methodology for data aggregation in future assessment, and OU 2 had the stop work order partially lifted for the determination of Contaminants of Concern (COC). The regulatory agencies and DOE continued to work this quarter to resolve the current impasse over the data aggregation issue and arrive at a compromise approach to the Human Health Risk Assessment (HHRA) work stop order issue.

Copies of the preliminary OU 1 Final Phase III RCRA Facility Investigation/Remedial Investigation (RFI/RI) Report were delivered to the EPA and the CDH. The regulatory agencies indicated that they may accept the November 1993 Phase III RFI/RI Report as the Final Report. Because of the stop work order that affected OU 2 from August through October 1993, the scheduled Interagency Agreement (IAG) Table 6 milestone for the Final Phase III RFI/RI Report was rescheduled from November 15, 1993, to March 4, 1994.

The final well test for the Bedrock field program was performed in OU 2, 903 Pad Area, thereby completing all RI field work.

The OU 2 Mobile Soil Vapor Extraction (MSVE) Pilot Plant is operational. Non-aqueous phase liquids (NAPLs) were encountered at Test Site 1 and this delayed the start-up date. A course of action to modify the current system was agreed to by the regulatory agencies and DOE in October 1993. A new schedule was developed for start of testing at Site 1, which incorporated modifications to the equipment necessary to handle the NAPLs encountered.

A soil vapor survey (SVE) was conducted to better locate the SVE extraction wells. Subcontractor training for the soil vapor survey was completed. The Operational Readiness Review (ORR) was conducted on October 18, 1993. The Pre-evolutionary briefing was conducted on October 19, 1993. Mobilization and the field surveys began October 22, 1993. The pilot start test is scheduled for February 14, 1994. The draft Soil Vapor Survey analysis is scheduled to be completed on January 11, 1994.

The first three chapters of the OU 2 Preliminary Draft Phase II RCRA Facility Investigation/Remedial Investigation (RFI/RI) Report were delivered to EPA and CDH on December 17, 1993, for review and comment. The complete OU 2 Phase II RFI/RI Report cannot be finished until the EPA/CDH Risk Assessment Stop Work is rescinded.

As of October 1, 1993, the OU 4 dispute resolution was resolved when the regulatory agencies and the DOE agreed to a new accelerated remediation schedule for Solar Pond Closure. The streamlined approach to OU 4 Phase I Remediation accelerated the schedule for Solar Pond closure by consolidating the administrative and design processes. Weekly meetings have been held among a working group of staff from the regulatory agencies, DOE, and EG&G since the OU 4 dispute resolution was settled. This exchange of information is part of the streamlined remediation schedule needed to support the new IAG

dates for Pond closure. Concurrence by the working group on the basic remedial alternative was achieved.

In support of the OU 4 Phase I RFI/RI Work Plan implementation, vertical drilling in Pond 207 B North and sealing activities, necessary to restore liner integrity and final surveying, were completed in November 1993. Drilling operations in Pond 207 B Center were completed on November 24, 1993.

On November 10, 1993, authorization was given to proceed with the OU 4 vacuum truck sludge transport option for removal of sludge from the solar ponds. The vacuum truck services contract was awarded on November 24, 1993. Vacuum truck service contractor personnel were completely trained for B Pond operations on December 13, 1993, and training for C Pond operations took place on December 17, 1993.

The first OU 4 poly tanks to be used for storage of sludge from the solar ponds arrived on plantsite on December 14, 1993. The design for relocating the tent heaters was completed. The tank layout design was completed. The tank movement white paper was completed, and all activities required to receive tanks in Tent 3 were completed. The Heater/Soaker Relocation Statement of Work (SOW) was approved for construction, and that construction was completed. Operations for sludge transferring are awaiting a Part A permit modification to interim status for the CDH.

The Readiness Reviews were completed and initial field work activities were started on December 10, 1993, for the Industrial Area (IA) OUs 8, 9, 10, 12, 13, and 14.

A preferred alternative was announced to address OU 16. The preferred remedy for the soils is the " No Action" alternative for Individual Hazardous Substance Sites (IHSSs) 185, 192, 193, 194, 195 within OU 16. IHSSs 196 and 197 were transferred for further investigation into OU 5 and OU 13, respectively. A public comment period was held concurrently for both the Proposed Plan and the Draft Permit Modification. The comment period is from November 8, 1993, to January 7, 1994. A public hearing was held on December 8, 1993.

DOE expedited the schedule of the Pond Water Management IM/IRA Decision Document (DD) and delivered copies of Volumes I and II to the regulatory agencies on November 22, 1993.

A Process Improvement Team (PIT) was established to develop a strategy to disposition all tanks at the Rocky Flats Plant (RFP). The team includes personnel from DOE and EG&G, and will work to ensure IAG compliance. The issue of how to handle the disposition of OU 9's non-RCRA active tanks is being reviewed.

The FY93 Environmental Restoration (ER) Project Year End Review was held in November 1993. The review was attended by DOE/Headquarters (HQ), DOE/RFO, and EG&G personnel. Presentations included joint reviews of the individual Activity Data Sheets (ADSs). Discussions on current Environmental Management (EM)-40 goals and strategies, management control systems, RFP ER organization, planning & budgeting, Decontamination & Decommissioning (D&D), and extensive reviews of the individual OUs.

A Electronic Community Bulletin Board System is now up and running. This system allows the general public who are equipped with a computer and modem to connect to the system and retrieve information. The following information will be available on the bulletin board: Environmental Restoration (ER) fact sheets, list of upcoming meetings, list of reading rooms and their documents, contact names and numbers of Community Relations personnel, and the ER Program Monthly Report. This system is currently in Phase I.

A presentation by the Health Advisory Panel subcontractor on Phase I of the Dose Reconstruction Study was held on October 20, 1993, and results of the project were released in a news conference and public meeting on October 21, 1993.

NATIONAL ENVIRONMENTAL POLICY ACT (ACTIVITIES)

National Environmental Policy Act (NEPA) and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) are fully integrated in all Environmental Restoration (ER) projects.

The following NEPA documents were prepared and submitted to DOE for approval or action:

- Background Soils Characterization Project Categorical Exclusion (CX)
- Installation of Trailers in Contractor Yard Categorical Exclusion
- Drill Cuttings Storage Facility Action Description Memorandum
- New Sanitary Landfill Environmental Assessment
- OU 4 Interim Measure Action Description Memorandum

A draft document titled "Integration of NEPA, CERCLA, and RCRA for Activities Under the Interagency Agreement (IAG) at Rocky Flats Plant (RFP)" is at DOE/HQ for review and approval.

Schedule slips are possible in preparation of the new Sitewide Environmental Impact Statement (EIS) and could lead to the Record of Decision (ROD) being issued too late to cover some near-term CERCLA cleanup activities. The near-term activities could be handled as interim actions, if necessary, to avoid schedule impacts.

ECOLOGICAL ACTIVITIES

The primary focus this quarter has been on ecological evaluations (EEs) for the 16 OUs. Results are presented in the EE reports submitted as an appendix of the RFI/RI report for each OU. The Phase III RFI/RI report for OU 1 was revised in response to comments and is undergoing internal review for re-submittal in December 1993 to the Natural Resource Trustees. Field Sampling is underway in OU 11 and was completed for all other OUs.

Nest building attempts by bald eagles at OU 3 near Standley Lake added an interesting dimension to the OU 3 evaluation. An assessment of the potential impacts of contaminants on the bald eagle populations is being prepared by the surrounding cities with technical

6

7

support from EG&G. The eagles did not nest successfully in the current year. They migrated in March 1993 but are expected to return. The Colorado Bird Observatory was engaged to study habitat use of bald eagles during the winter months.

The Resource Protection Program (RPP) involves biological surveys and assessments to ensure compliance with biological regulations (Endangered Species Act, Fish and Wildlife Coordination Act, Migratory Bird Treaty Act, Bald Eagle Protection Act, Colorado State Species of Concern) for OUs and sitewide projects. Sitewide ecological mitigation plans for wildlife habitat and wetlands damaged or destroyed as a result of remediation or other land disturbance projects at the plant are being developed. Chief among these are the French drain project and mitigated wetland in OU 1.

Mitigation efforts will continue to be developed in concert with the Natural Resource Damage Assessment (NRDA) process. The NRDA rule provides for the assessment of "residual" damages by the Natural Resource Trustees.

The first field season for the Ecological Monitoring Program (EcMP) was completed in September 1993. When collated with comprehensive data from other ecological activities, the monitoring programs will establish a quantitative ecological baseline for RFP and will be useful in characterizing ecological effects of plant activities or remediation. Reclamation monitoring activities were completed for the French drain. A revised reclamation plan was prepared and implemented, mandating supplemental seeding in fall and spring of the current fiscal year.

ENVIRONMENTAL RESTORATION SCHEDULE ACTIVITIES

OU 1 - 881 HILLSIDE ASSESSMENT/REMEDIATION

OU Description

The alluvial ground water at the 881 Hillside Area, located north of Woman Creek in the southeast section of RFP, was contaminated in the 1960s and 1970s with solvents and radionuclides. The area is approximately 2 miles from the eastern, outer edge of the plant's buffer zone at Indiana Street. The various Individual Hazardous Substance Sites (IHSS) that make up OU 1 were being investigated and treated as high-priority sites because of potentially elevated concentrations of organic compounds in the near-surface ground water and the proximity of the contamination to a drainage system leading to an offsite drinking water supply. The selected Interim Remedial Action (IRA) at OU 1 involved construction of an underground drainage system called a French drain that intercepts and contains near-surface ground water flowing from the OU 1 area. The near-surface water is treated at the 891 treatment facility, designed for this purpose, and released onsite into the South Interceptor Ditch (SID) along Woman Creek. Water collected from this ditch undergoes a secondary analysis prior to release. IRA construction was completed in April 1992. The Remedial Investigation and Feasibility Study (RI/FS) to determine the final remedial action are continuing in parallel with operation of the IRA.

First Quarter FY94 Activity

A meeting was held in October 1993 among the regulatory agencies, DOE, and EG&G concerning methodology for data aggregation in future risk assessments. OU 1 was specifically exempted from the new proposed approach in October 1993. The methodology to be used in OU 1 to determine contaminants of concern (COCs) is an approach that was formulated months ago. Using this approach allows work to continue on the Final Phase III RFI/RI. All remaining OUs will adopt the new methodologies for selection of COCs and data aggregation in the future in their risk assessments.

Internal review and revisions to the Final Phase III RFI/RI document were completed in October 1993, and the report was delivered to the regulatory agencies in November 1993. The milestone for submittal of the Final Phase III

RFI/RI was delayed by 109 days because of the stop work order from November 15, 1993, to March 4, 1994.

DOE and EG&G technical staff met on November 23, 1993, to present the field investigation plan for evaluating the suitability of the dense non-aqueous phase liquids (DNAPL) site at IHSS 119.1 for six-phase ohmic soil heating and vapor extraction. Maps of the proposed soil gas sampling were presented; administrative concerns were discussed and resolved.

Work on the Corrective Measures Study/Feasibility Study (CMS/FS) proceeded with a review of the final remediation alternatives. Technical Memorandum (TM) #10, *Preliminary Remediation Goals (PRG)*, and TM #11, *Alternatives Array*, are contingent upon the final results of the Phase III RFI/RI Report. The milestones for the CMS/FS were delayed 109 days because of the work stop order.

The 881 Hillside IM/IRA continues to treat water collected in the French drain. Approximately 1,803,417 gallons of water have been treated to date.

IAG MILESTONES THROUGH FY95 FOR OU 1	SCHEDULE	ACTUAL
Submit Draft Proposed IM/IRA Decision Document	18 Sep 89	18 Sep 8
Submit Proposed IM/IRA Decision Document	06 Oct 89	06 Oct 89
Submit Final IM/IRA Decision Document	05 Jan 90	05 Jan 90
Begin Phase I-A IM/IRA Construction	15 Jan 90	15 Jan 90
Begin Phase I B IM/IRA Construction	08 Oct 90	23 Sep 90
Submit Final Phase III RFI/RI Work Plan	31 Oct 90	31 Oct 90
Restart Phase I-A IM/IRA Construction (after shutdown)	20 Jun 90	20 Jun 90
Begin Phase I-B IM/IRA Construction (ahead of schedule)	28 Sep 90	28 Sep 90
Submit IM/IRA Implementation Document	22 Feb 91	22 Feb 91
Begin Phase II-A IM/IRA Construction	05 Aug 91	05 Aug 91
Begin Phase II-B IM/IRA Construction	02 Mar 92	02 Mar 92
Complete IM/IRA Construction (french drain)	13 Apr 92	13 Apr 92
Submit Draft Phase III RFI/RI Report	28 Oct 92	28 Oct 92
Submit Final Phase III RFI/RI Report	15 Nov 93*	
Submit Draft CMS/FS Report	11 Feb 94*	
Submit Final CMS/FS Report	03 Aug 94*	
Submit Draft PP	27 Sep 93*	
Submit Final PP	04 Jan 94*	
Submit Draft Responsiveness Summary	06 May 94*	

9

Submit Final Responsiveness Summary	03 Aug 94*
Submit Draft CAD/ROD	03 Aug 94*
Submit Draft Title II Design	05 Jul 95*
Submit Final Title II Design	03 Oct 95*

* Because of HHRA issues, work was stopped on the RI Reports from August 18, 1993, through October 22, 1993. The stop work order was lifted on OU 1 after October 22, 1993. All subsequent milestones will require extensions; the regulatory agencies approved extensions.

10

OU 2 - 903 PAD, MOUND, AND EAST TRENCHES ASSESSMENT/REMEDIATION

OU Description

The contamination at the 903 Pad and Mound areas is largely attributed to the storage in the 1950s and 1960s of waste drums that corroded over time, allowing hazardous and radioactive material to leak into the surrounding soil. Additional contamination may have resulted from wind dispersion during drum removal and soil movement activities. The East Trenches Area was used for disposal of plutonium- and uranium-contaminated waste and sanitary sewage sludge from 1954 to 1968. Two areas adjacent to the trenches were used for spray irrigation of sewage treatment plant effluent; some may have contaminants that were not removed by the treatment system.

An IM/IRA provides for surface water in source areas of contamination to be collected, treated, and discharged to the surface water drainage. Operation of a field-scale treatability unit for the South Walnut Creek drainage began in May 1991. The effectiveness of the treatment process will be evaluated at three locations: the entrance to the treatment facility, several points within the facility, and the discharge point. The unit is anticipated to remain in service until the final remedial action is operational. The RI and FS are continuing in parallel with the IRA.

A second IM/IRA was established in late-1991. This Subsurface Investigation Interim Measure/Interim Remedial Action Plan/Environmental Assessment (IM/IRAP/EA) is north of Woman Creek and encompasses the 903 Pad, the Mound Area, and the East Trenches Area of OU 2. This IM/IRAP/EA identifies and evaluates interim remedial actions for removal of residual free-phase VOC contamination from three distinct subsurface environments at OU 2. Each of the VOC-removal actions involve *in situ* vacuum-enhanced vapor extraction technology. The interim remedial actions for the collection of information will aid in the selection and design of final remedial actions that address subsurface, residual free-phase VOC contamination at OU 2.

First Quarter FY94 Activity

The final field test for the Bedrock field program was performed in OU 2, 903 Pad Area, thereby completing the RI field work.

The stop work order issued by DOE at the request of the regulatory agencies was partially lifted for the OU 2 determination of COC. Even so, the draft TM #9, *Chemicals of Concern*, was submitted to the regulatory agencies for review and comment. The remaining issue under the stop work order is the method of data aggregation for the baseline risk assessment. This issue has not yet been resolved. Work is proceeding towards finalizing TM #9, *Chemicals of Concern*

The first three chapters of the Preliminary Draft OU 2 Phase II RFI/RI Report were reviewed in November 1993. Revisions to the three chapters were made in preparation for submittal to the regulatory agencies. Chapters four and five were reviewed by DOE.

Subcontractor training for the soil vapor survey was completed. The ORR was conducted on October 18, 1993. The pre-evolutionary briefing was conducted on October 19, 1993. Mobilization and the Field Instrument Detection Low energy Radiation (FIDLER) began October 22, 1993. Completion of the Operational Readiness Review (ORR) for the Soil Vapor Survey compliance list and formal authorization to start sampling of IHSSs was granted on November 2, 1993. The field work was completed on December 2, 1993. The Final Baseline Soil Vapor Survey (SVS) and Detailed SVS Analysis will be completed on February 14, 1994.

DOE Comments were incorporated into the Interim Measure/Interim Remedial Action (IM/IRA) Implementation and Operation Plan for the Soil Vapor Extraction (SVE) Pilot Test. These comments were delivered to the regulatory agencies on October 4, 1993. The OU 2 Mobile Soil Vapor Extraction Pilot Plant (MSVE) is operational and ready to function; however, the start up date was delayed because of the presence of non-aqueous phase liquids (NAPLs) encountered at Test Site 1. A 5-week extension was granted by the agencies to evaluate the impact of the NAPLs. The evaluation of the NAPLs was completed and a recommended course of action was presented. A new schedule and extension request was provided for start of testing at Site 1, which incorporates modifications to the equipment necessary to

handle the NAPLs encountered. A scope of work was developed for reconfiguration of the MSVE. The new scope will allow operation of the MSVE pilot plant in the presence of high concentrations of NAPLs.

IAG MILESTONES THROUGH FY95 FOR OU 2	SCHEDULE	ACTUAL
Submit Draft Phase II RFI/RI Work Plan (Alluvial)	21 Dec 89	21 Dec 89
Submit Final Phase II RFI/RI Work Plan (Alluvial)	12 Apr 90	12 Apr 90
Submit Draft Proposed IM/IRA Decision Document	19 Jun 90	19 Jun 90
Submit Proposed Plan IM/IRA Decision Document	18 Sep 90	18 Sep 90
Submit Draft Responsiveness Summary	13 Dec 90	13 Dec 90
Submit Final Responsiveness Summary and Final IM/IRA Decision Document	13 Dec 90	13 Dec 90
Submit Draft Phase II RFI/RI Work Plan (Bedrock)	13 Dec 90	13 Dec 90
Field Treatability Test System Installation Complete	10 May 91	10 May 91
Begin Field Treatability Testing (Carbon System)	13 May 91	13 May 91
Submit Final Phase II RFI/RI Work Plan (Bedrock)	02 Jul 91	02 Jul 91
Submit Draft Treatability Test Report (Phase I GAC)	01 Apr 92	01 Apr 92
Complete IM/IRA Construction (radionuclides removal system)	24 Apr 92	24 Apr 92
Begin Field Treatability Testing (radionuclides removal system)	27 Apr 92	27 Apr 92
Submit Final Treatability Test Report (Phase I GAC)	02 Jun 92	02 Jun 92
Submit Subsurface Site I Draft Test Plan	29 Oct 92	29 Oct 92
Submit Draft Phase II RFI/RI Report	12 Mar 93	
Submit Final Phase II RFI/RI Report	09 Aug 93*	
Submit Draft CMS/FS Report	04 Nov 93*	
Submit Final CMS/FS Report	10 May 94*	
Submit Draft PP	10 May 94*	
Submit Final PP	09 Aug 94*	
Submit Responsiveness Summary	13 Dec 94*	
Submit Draft CAD/ROD	16 Mar 95*	
Submit Final Responsiveness Summary	16 Mar 95*	
Submit CAD/ROD Work Plan	15 Jun 95*	
Submit Final CAD/ROD	15 Jun 95*	

* Because of HHRA issues, work was stopped on the RI Reports in August 1993. In October 1993, the stop work order was partially lifted on OU 2. All subsequent milestones will require extensions; the regulatory agencies approved extensions.

14

OU 3 - OFFSITE AREAS

OU Description

OU 3 can be divided into two categories based on two main activities. The IAG directs activities according to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This involves assessment of contamination in offsite areas also referred to as Contamination of the Land Surface (IHSS 199), Great Western Reservoir (IHSS 200), Standley Lake (IHSS 201), and Mower Reservoir (IHSS 202). The second category responds to a 1985 out-of-court lawsuit settlement, McKay vs. U.S., which directed that the surface soil contamination be remediated. Remedial activities in compliance with the Settlement Agreement (deep disc plowing) began in 1985. The disturbance resulting from remediation is being revegetated with mediocre success. The overall schedule for this activity is determined by the year-to-year success of the revegetation effort and requirements of the landowners.

First Quarter FY94 Activity

Modifications were made to the subcontract to develop the Draft and Final RI Reports. The modifications provide resources needed to adjust the contract following the approval of the schedule extension. Work began on November 8, 1993.

A letter is being written to inform offsite landowners on the laboratory analysis results of soil samples obtained from their property. Only validated data will be sent to the landowners, thus letters will be sent as this data becomes available.

DOE received correspondence proposing a series of FS planning meetings with the regulatory agencies. The FS is a new phase of the regulatory process that OUs 1, 2, 3, and 6 are just beginning. To avoid the delays experienced during the RI phase, an FS Planning Agreement to obtain a comment understanding of the process will be very valuable.

OUs 3 is still affected by the risk assessment stop work directive. The OU 3 project schedule will be extended on a day-for-day basis for the length of the stop work order.

A presentation by the Health Advisory Panel subcontractor on Phase I of the Dose Reconstruction

16

Study was held on October 20, 1993, and results of the project were released in a news conference and public meeting on October 21, 1993. Significant conclusions from the Phase I study are as follows: (1) historical offsite doses are very small; (2) plutonium and carbon tetrachloride are the primary COC; (3) inhalation is the primary pathway; and (4) the events of greatest concern are the 903 pad, the 1957 fire, and routine emissions of carbon tetrachloride.

IAG MILESTONES THROUGH FY95 FOR OU 3	SCHEDULE	ACTUAL
Submit Draft Past Remedy Report	26 Oct 90	26 Oct 90
Submit Draft Historical Information/ Preliminary Health Risk Assessment Report	09 Nov 90	09 Nov 90
Submit Final Past Remedy Report	02 Apr 91	02 Apr 91
Submit Final Historical Information/ Preliminary Health Risk Assessment Report	16 Apr 91	16 Apr 91
Submit Draft Phase I RFI/RI Work Plan	10 Jul 91	10 Jul 91
Submit Final Phase I RFI/RI Work Plan	06 Dec 91	06 Dec 91
Submit Draft Phase I RFI/RI Report	16 Jul 93*	
Submit Final Phase I RFI/RI Report	13 Dec 93*	

* Extension date approved by the regulatory agencies. Because of HHRA issues, work has stopped on the RI Reports. Extensions will be required on all subsequent milestones.

OU 4 - SOLAR EVAPORATION PONDS

OU Description

OU 4 is comprised of five solar evaporation ponds: 207A, 207B series (north, center, south), and 207C, which were constructed for treatment and storage of process water from industrial operations. The process water contained treated acidic wastes, industrial liquid wastes (e.g., metal plating solutions), and low-level radioactive wastes.

As technology improved through the early 1960s and 1970s, the ponds were relined with various upgraded materials. However, leakage from the ponds into the soil and ground water was detected. Interceptor trenches were installed in 1971 to collect and recycle contaminated ground water to the ponds and to minimize natural seepage and pond leakage from entering North Walnut Creek. In 1981, these trenches were replaced by the current, larger interceptor trench system (ITS), which returned approximately 4 million gallons of ground water back into the solar evaporation ponds each year.

No additional process water has been pumped into the ponds since 1986. However, the ITS collected and returned ground water into the solar evaporation ponds until new storage tanks were completed and placed in operation in April 1993. The tanks allowed the RFP to stop placement of contaminated ground water into the ponds. This placement of water into the ponds had been occurring without meeting Land Disposal Restrictions and Minimum Technology Requirements of Resource Conservation and Recovery Act (RCRA). A new, dedicated Building 910 evaporation-treatment facility became operational in July 1993. This building supplements the plant's waste treatment facility in Building 374 to process the water stored in the modular tanks.

The Solar Evaporation Ponds Subproject has been comprised of four technical areas: (1) pond sludge processing by means of the Agreement in Principle between DOE and CDH; (2) water management/treatment by means of the IM/IRA DD signed by EPA, CDH and DOE; (3) the OU 4 assessment and remedial action, per the IAG which identified the ponds as one of the sixteen OUs to be remediated at the RFP and superseded the 1988 Ponds-Closure Plan submitted by DOE to the regulators; and (4) pad operations and storage activities that are necessary to

meet the plant's RCRA interim status and permit requirements with regards to storage of pond wastes. The water management and pond sludge clean-out are necessary precursors to OU 4 assessment and remediation, and pad operations are necessary support activities at least until the pond sludge waste is disposed. Revisions to these areas are being prepared in accordance with the recent dispute resolution for OU 4.

Work in these four areas was planned to close the ponds and remediate OU 4. The work was scoped to (1) remove water from the ponds, (2) provide a treatment facility to replace the ponds as evaporation-treatment and storage units for pond-related contaminated ground water, (3) remove and dispose of pond sludge in compliance with all regulations such as the Land Disposal Restrictions of RCRA, (4) assess the nature and extent of contamination at the ponds; (5) complete a RCRA closure of the impoundments; and (6) remediate the ponds as needed.

The April 1992 IM/IRA was developed as a regulatory agency requirement not included in the scope outlined in the IAG. DOE attempted to modify an existing permit for water removal and treatment for liquids in the solar ponds and ground water collected by the ITS, but the regulatory agencies rejected permit modification and required development of an IM/IRA to document operation and use of the proposed water treatment system and provide the permitting mechanism for the system. The development and implementation of this IM/IRA preceded and overlapped the IAG scheduled Phase I RFI/RI field work. All construction has been completed, and the IM/IRA treatment facility is now in operation.

First Quarter FY94 Activity

The dispute resolution regarding two missed OU 4 IAG milestones was resolved with the reduction of 40 days from the remediation schedule being agreed to by the regulatory agencies and DOE. Weekly meetings commenced with the conclusion of the OU 4 dispute resolution to obtain input from the regulatory agencies on the IM/IRA DD. This exchange of information is part of the streamlined remediation schedule needed to support the new IAG dates for pond closure. COCs, methodology for risk analysis, land-use scenarios, engineered barriers, interfaces with another OU that physically impinges on the OU 4 site, and remediation treatment options have all

been topics discussed at these meetings.
The streamlined approach to OU 4 Phase I Remediation has accelerated the schedule for Solar Pond closure. In particular, the administrative and design processes were consolidated. To fulfill RFP's commitments to the regulatory agencies, it will be necessary to begin Title II Design prior to completion of the National Environmental Policy Act (NEPA) process. DOE routinely gives its concurrence with an overlap between Title II and the NEPA process, to ensure that DOE Order 4700.1 requirements for environmental planning and review are fulfilled.

CDH approval is needed to store drill cuttings that were generated by field investigation work in the 207-B Ponds. The drill cuttings are currently stored in a RCRA 90-day area but must be moved to a storage unit before the 90 days expire. DOE requested a change to Interim Status, which is needed to provide for storage of the drill cuttings. No problem with obtaining approval was identified so far. There are 63 days left before the 90-day storage limit expires.

On November 8, 1993, DOE was briefed on all operational, technical risk, and business risk considerations related to the use of the vacuum truck service to remove sludge from the Solar Pond Project (SPP). On November 10, 1993, DOE gave the authorization to proceed with the vacuum truck sludge transport option. The procurement package for the vacuum truck service was delivered to RFP Procurement on November 10, 1993, and a Request for Proposals was issued to potential subcontractors on November 11, 1993. The Readiness Review Team concluded that the Accelerated Sludge Removal Project (ASRP) will conduct a Special Assessment (SA) leading to a Declaration of Readiness to Operate for the vacuum loader operation. A draft Special Assessment Plan was generated and the team began a checklist development. The vacuum truck services contract was awarded November 29, 1993. The vacuum truck service contractor personnel were completely trained for B Pond operations on December 13, 1993, and for C Pond operations on December 17, 1993.

The first poly tanks to be used for storage of sludge from the solar ponds arrived on plantsite in December 1993. The design for relocating the tent heaters was completed. The relocation in Tent 3 was completed, and Tent 4 is underway. The tank layout design was

20

21

completed. The tank movement white paper was completed, and all activities required to receive tanks in Tent 3 were completed. The Heater/Soaker Relocation SOW was approved for construction, and that construction was completed. Operations for sludge transferring are awaiting a permit modification to interim status.

IAG MILESTONES THROUGH FY95 FOR OU 4	SCHEDULED	ACTUAL
Submit Draft Phase I RFI/RI Work Plan	08 Jun 90	08 Jun 90
Submit Final Phase I RFI/RI Work Plan	26 Nov 91	26 Nov 91
Submit Draft Phase I RFI/RI Report	14 Sep 93*	
Submit Final Phase I RFI/RI Report	14 Feb 94*	
Submit Draft Phase I IM/IRA Decision Document (DD)	14 Apr 94	
Submit Draft Phase II RFI/RI Work Plan	22 Apr 94	
Submit Proposed IM/IRA DD	24 Jun 94	
All Solar Ponds Emptied of Water and Sludge	20 Jan 95[a]	
Submit IM/IRA Responsiveness Summary	01 Nov 94[b]	
Submit IM Design Work Plan (replaced with in-process design review)	24 May 95*	
Submit Final Phase I IM/IRA DD and Final Responsiveness Summary	13 Jan 95[b]	

* Deleted as part of the IAG dispute resolution decision.

[a] New milestone added to IAG Table Six as part of the IAG dispute resolution decision.

[b] Accelerated schedule as part of the IAG dispute resolution decision.

OU 5 - WOMAN CREEK

OU Description

OU 5 - Woman Creek activity encompasses assessment and remediation of 10 IHSSs in the Woman Creek drainage: Original Landfill (IHSS 115); Ash Pits (IHSS 133.1 - 133.4); Incinerator (IHSS 133.5); Concrete Wash Pad (IHSS 133.6); Detention Ponds C-1 and C-2 (IHSS 142.10 and 142.11); Water Treatment Plant Backwash Pond (IHSS 196); Surface Disturbance (IHSS 209), southeast of Building 881. Two additional surface disturbances have been identified and are located, one south of the Ash Pits and a second west of IHSS 209. These last two sites have been included in the OU 5 Work Plan. Possible contamination in this operable unit was caused by landfill operations, storm-water runoff into holding ponds, and ash-pit operations. Constituents in OU 5 are believed to include nitrates, plutonium, uranium, metals, beryllium, solvents, pesticides, oils, paints, and cleaners. Media affected include soils, sediments, surface water, ground water, and air resuspension.

First Quarter FY94 Activity

There has not been a resolution to the HHRA stop work order for OU 5. A milestone extension request that equals the time lost by the HHRA stop work order will be requested of the regulatory agencies.

TMs #12, *Exposure Scenarios*, and TM #13, *Models*, continue on hold because of the stop work order . The draft TM #12 was reviewed by the regulatory agencies, but there are issues not addressed in the regulatory agencies' comments that need to be addressed concerning this TM. TM #13, *Models*, was delayed until comments were received in November 1993 from the regulatory agencies on the OU 6 TM #3, *Modeling Surface and Ground Water*. These comments were addressed in TM #13. This allows OU 5 and OU 6 to respond at the same time to comments from the regulatory agencies. Delaying these two TMs (12 and 13) has not impacted the schedule for OU 5.

Other sections of the Draft Phase I RFI/RI Report are in progress, including a summary of Field Investigations Activities, Geological Characterization, and the Nature and Extent section.

Approximately 80-85 percent of the analytical data was returned to the Rocky Flats Environmental Database

System (RFEDS). Data management, aggregation of data, and statistical evaluation cannot begin until the database or subsets of the database are complete. The aggregation of data issues were resolved.

IAG MILESTONES THROUGH FY94 FOR OU 5	SCHEDULE	ACTUAL
Submit Draft Phase I RFI/RI Work Plan	05 Apr 91	05 Apr 91
Submit Final Phase I RFI/RI Work Plan	30 Aug 91	30 Aug 91
Submit Draft Phase I RFI/RI Report	30 Nov 93*	
Submit Final Phase I RFI/RI Report	03 May 94*	

* Extension date approved by the regulatory agencies. Because of HHRA issues, work has stopped on the RI Reports. Extensions will be required on all subsequent milestones.

OU 6 - WALNUT CREEK

OU Description

This activity encompasses assessment and remediation in the Walnut Creek Drainage of 21 IHSSs: A-series Detention Ponds, Ponds A-1 through A-4 (IHSS 142.1 through 142.4 and 142.12); the B-series Detention Ponds, Ponds B-1 through B-5 (IHSS 142.5 through 142.9); the North, Pond, and South Area Spray Fields (IHSS 167.1, 167.2 and 167.3); the East Area Spray Field (IHSS 216.1), the Trenches A, B and C (IHSS 166.1, 166.2 and 166.3); the Sludge Dispersal Area (IHSS 141); the Triangle Area (IHSS 165); the Old Outfall Area (IHSS 143), and the Soil Dump Area (IHSS 156.2).

Completion of field operations resulted in obtaining the following samples from the IHSSs in OU 6: stream sediment, pond sediment, surface soil, subsurface soil,surface and ground water.

Eleven new ground water monitoring wells, installed in OU 6 to supplement five existing wells, are being sampled each quarter for a minimum of 1 year. Geophysical surveys and radiation surveys were performed in selected areas to supplement the sampling activities.

The regulatory agencies have proposed a new IM/IRA on the operation of the RFP Ponds. If approved, this IM/IRA would affect the RFP pond water management, including OU 6, placing the water under CERCLA rather than the National Pollution Discharge Elimination System (NPDES).

First Quarter FY94 Activity

Sections of the Draft Phase I RFI/RI Report are in progress, including a summary of Field Investigations Activities, Geological Characterization, and the Nature and Extent Section. The Draft Phase I RFI/RI Report milestone date is June 10, 1994; however, because of the HHRA stop work order, a schedule extension will be requested of the regulatory agencies that equals the time lost by the HHRA stop work order.

There has not been a resolution to the HHRA stop work order, on data aggregation, selection of contaminants, and statistical comparisons for OU 6. TM #1, *Work Plan Modifications*, continues to be on hold; TM #2, *Exposure Scenarios*, TM #3, *Modeling Surface and Ground Water*, and TM #4, *COCs* continue to be delayed.

A meeting was held with the regulatory agencies on October 28, 1993, to go over TM #3, *Modeling Surface and Ground Water.* On November 8, 1993, responds to the regulatory agencies' comments were delivered to EPA.

Errors are being resolved in the RFEDS; the documentation process for recording the error corrections was established. All of the errors detected were minor and will not influence the interpretation of the data. Ninety-eight percent of the samples were analyzed and are in RFEDS. Work continued on the RFEDS database tables to sort the data by IHSSs and contaminants and perform QA.

A review of sediment data from the A and B series of ponds revealed that there are elevated levels of Polychlorinated biphenyl (PCBs) in the B series of ponds. Additional biota sampling will be required to characterize the situation. A document change notice (DCN) to the Sampling and Analytical Plan (SAP) will be completed. A modification to the RI subcontract will be required to implement this work. The biota sampling cannot occur until the spring of 1994. If the analytical result cannot be interpreted prior to the submittal of the Draft Phase I RFI/RI Report on June 10, 1994, the issue with PCB's will be addressed in the Final Phase I RFI/RI Report.

A Potential Area of Concern (PAC) within the overall boundaries of OU 6 was visited on November 2, 1993. During construction activities of three large holding tanks for the hillside north of the Solar Ponds, an area was uncovered that appeared to be a sludge pit for the Sewage Treatment Plant (STP). The hillside is now being monitored for slumping with a series of ground markers that are bored 5 feet into the ground. One of these markers is slated to be positioned near the area of the PAC. RFP requested that this boring and three others (to be drilled in that area) be sampled for nitrates, hydrogen sulfide, methane, CLP metals, and gross alpha and beta.

The analytical database is complete (99 percent), and approximately 85% validated. The subcontractor is involved with database management and clean up; preliminary histograms were produced (with aggregated data for the entire OU) for CLP metals.

IAG MILESTONES THROUGH FY94 FOR OU 6	SCHEDULE	ACTUAL
Submit Draft Phase I RFI/RI Work Plan	19 Apr 91	19 Apr 91
Submit Final Phase I RFI/RI Work Plan	16 Sep 91	16 Sep 91
Resubmit Final Phase I RFI/RI Work Plan	16 Dec 91	16 Dec 91
Submit Draft Phase I RFI/RI Report	10 June 94*	
Submit Final Phase I RFI/RI Report	18 Nov 94*	

* Extension date approved by the regulatory agencies. Because of HHRA issues, work has stopped on the RI Reports. Extensions will be required on all subsequent milestones.

27

27

OU 7 - PRESENT LANDFILL

OU Description

The Present Landfill - OU 7 is located north of the plant complex on the western edge of an unnamed tributary of North Walnut Creek and is comprised of two IHSSs. IHSS 114 includes landfill waste and leachate at the Present Landfill, soils beneath the landfill potentially contaminated with leachate, and sediments and water in the East Landfill Pond. IHSS 203 contains potentially contaminated soils at the Inactive Hazardous Waste Storage Area. A section of the Present Landfill located in the southwest corner was used between 1986 and 1987 as a temporary storage area for hazardous waste. The Present Landfill began operation in August of 1968 and was originally constructed to provide for disposal of RFP's nonradioactive and nonhazardous wastes. In September 1973, tritium was detected in leachate from the landfill. During the mid-1980s, extensive investigations were conducted on the waste streams (types) placed into the landfill; consequently, hazardous wastes/hazardous constituents were identified. Although currently operating as a nonhazardous sanitary landfill, the facility is considered an inactive hazardous waste disposal unit undergoing RCRA closure.

First Quarter FY94 Activity

OU 7 is still affected by the HHRA stop work directive; however, the regulatory agencies are working to arrive at a compromise approach to the HHRA work stop order issue of data aggregation.

Negotiations with CDH and EPA continue relative to streamlining the IAG schedule for OU 7 by integrating the IM/IRA process with Phase I and II assessments. This will eliminate the Phase I RFI/RI Report and Phase II RFI/RI Work Plan and Report. The regulatory agencies support this effort. The modification to the subcontract supporting IM/IRA was submitted to RFP Procurement; the subcontract was awarded in December 1993. A detailed life-cycle schedule is being developed for the landfill closure process.

Work was completed on a proposed frame work for revising the current IAG scope and schedule. The regulatory agencies agreed with the rescoping. A working group composed of members from the regulatory agencies, DOE, and EG&G developed data quality objectives (DQOs) for OU 7 rescoping.

The draft statement of work (SOW) for modification of the current subcontract incorporating rescoping changes is being revised to incorporate comments regarding the most effective means to implement the subcontract. Cost estimates are under development.

Work continues on refining a strategy to assess risk at the landfill. A draft frame work document was completed to form a baseline strategy and will be submitted to the regulatory agencies.

IAG MILESTONES THROUGH FY95 FOR OU 7	SCHEDULE	ACTUAL
Submit Draft Phase I RFI/RI Work Plan	08 Jun 90	08 Jun 90
Submit Final Phase I RFI/RI Work Plan	28 Aug 91	28 Aug 91
Submit Draft Phase I RFI/RI Report	12 Oct 93*	
Submit Final Phase I RFI/RI Report	16 Mar 94*	
Submit Draft Phase II RFI/RI Work Plan	13 Sep 94*	
Submit Draft Phase I Proposed IM/IRA Decision Document (DD)	01 Nov 94*	
Submit Final Phase II RFI/RI Work Plan	15 Feb 95*	
Submit Final Phase I Proposed IM/IRA Decision Document (DD)	06 Apr 95*	
Submit IM/IRA Responsiveness Summary	14 Aug 95*	
Submit Phase I Final IM/IRA DD and Final Responsiveness Summary	09 Nov 95*	
Submit IM Design Work Plan	13 Dec 95*	

* Extension date approved by the regulatory agencies. Because of HHRA issues, work has stopped on the RI Reports. Extensions will be required on all subsequent milestones.

OU 8 - 700 AREA ASSESSMENT

OU Description

The 24 IHSSs that constitute OU 8 encompass separate sites inside and around the production area of the Rocky Flats Plant. Contamination sources within the various IHSSs include above ground and underground tanks, equipment washing areas, and releases inside buildings which potentially affected areas outside the buildings. Contaminants from these sources may have been introduced into the environment through spills on the ground surface, underground leakage and infiltration, and in some cases through precipitation runoff. The chemical composition of the contaminants also varies widely between the IHSSs, ranging from low-level radioactive mixed wastes to nonradioactive organic and inorganic compounds.

First Quarter FY94 Activity

On October 1, 1993, DOE received the Health and Safety Plan (HSP) and comment responsiveness summary on the Final HSP for implementation of nonintrusive field work for the Industrial Area (IA) OUs 8, 9, 10, 12, 13, and 14.

Work continued in October 1993 on the formalized plan to rank the IA OUs IHSSs for potential linkage to Decontamination and Decommissioning (D&D) and the Transition Plan and to quantify the intrusive field work for FY94.

Field work for the IA EE started in October 1993. DOE reviewed the Draft Phase I Data Summary for the Industrial Area (IA) EE in November 1993. Bird observation activities began on November 4, 1993. The contractor reviewed both the bird survey addendum and the Phase II Data Summary in November 1993. DOE started a review and comment period of the bird survey addendum and the Phase II Data Summary in December 1993.

IAG MILESTONES THROUGH FY95 FOR OU 8	SCHEDULE	ACTUAL
Submit Draft Phase I RFI/RI Work Plan	01 May 92	01 May 92
Submit Final Phase I RFI/RI Work Plan	01 Dec 92	01 Dec 92
Submit Draft Phase I RFI/RI Report	14 Feb 94*	
Submit Final Phase I RFI/RI Report	12 Jul 94*	

* Extension required.

OU 9 - ORIGINAL PROCESS WASTE LINES

OU Description

This activity involves characterizing a series of tanks and associated process waste lines. The original Process Waste Lines (OPWL) consisted of 35,000 feet of buried pipeline that transferred process wastes from production buildings to onsite treatment plants. A system of 60 designated pipe section, 46 storage tank sites, and 3 other areas of suspected press waste leakage are included in OU 9. The system was placed into operation in 1952, and additions were made to the system through 1975. The original system was replaced over the 1975-1983 period by the new process waste system. Some tanks and lines from the original system were incorporated into either the new process waste system or the fire water deluge collection system.

The original system is known to have transported or stored various aqueous process wastes containing low-level radioactive materials, nitrates, caustics, and acids. Small quantities of other liquids were also introduced in the system, including medical decontamination fluids, miscellaneous laboratory liquids, and laundry effluent. The RFI/RI plan includes inspection and sampling of the OPWL tanks and pipelines that are accessible and soil sampling to determine the extent of contamination in the vadose zone. The soil sampling will be performed by installing test pits and boring where known or suspected releases occurred, near pipe joints and valves, at approximately 200-foot intervals along the pipelines, and by installing borings around the outdoor tanks. Soil characterization studies will determine the need for soil removal and/or treatment. The results of the RFI/RI will determine the need for interim and/or final remediation action.

First Quarter FY94 Activity

DOE reviewed the OU 9 preliminary draft of TM #1, *Field Sampling Plan Part I Outside Tanks*. DOE and EG&G commented on TM #1 on October 14, 1993, and these comments were incorporated into TM #1. The issue of how to handle active tanks is currently being reviewed. DOE's position is that active tanks located outside of buildings should not be included in this field sampling TM. These tanks should be investigated when they are taken out of service. Tanks that previously were identified as active are being rechecked to determine if they are still active.

A Process Improvement Team (PIT) of DOE and RFP personnel was established to develop a strategy to disposition all tanks at the RFP. ER personnel provided the input for the branch on the flow diagram dealing with IAG tanks. At a meeting held on November 15, 1993, the team discussed refinements to the flow diagrams and identified specific issues that need to be addressed in the team's final report. On November 19, 1993, a working meeting was held to comment on the flow diagrams, correct logic discrepancies and make the diagrams more understandable for operations personnel.

IAG MILESTONES THROUGH FY95 FOR OU 9	SCHEDULE	ACTUAL
Submit Draft Phase I RFI/RI Work Plan	08 Jun 90	08 Jun 90
Submit Final Phase I RFI/RI Work Plan	26 Nov 91	26 Nov 91
Submit Draft Phase I RFI/RI Report	11 Apr 94*	
Submit Final Phase I RFI/RI Report	06 Sep 94*	
Submit Draft Phase II RFI/RI Work Plan	10 Mar 95*	
Submit Draft Phase I Proposed IM/IRA Decision Document (DD)	01 May 95*	
Submit Final Phase II RFI/RI Work Plan	07 Aug 95*	
Submit Final Phase I Proposed IM/IRA Decision Document (DD)	27 Sept 95*	

* Extension required.

OU 10 - OTHER OUTSIDE CLOSURES

OU Description

OU 10 is made up of 15 IHSSs scattered throughout the plant, which consist of various hazardous waste units. Six of the IHSSs are located in the PA, two are located in the buffer zone near the present landfill, and the remaining IHSSs are located near various buildings throughout the plant. The types of wastes identified at these sites range from pondcrete/saltcrete storage and drum storage to a utilization yard with waste spills. A Final Phase I RFI/RI Work Plan is currently in preparation. The primary components of the RFI/RI Work Plan for OU 10 will be an FSP, Baseline Risk Assessment Plan (BRAP), and an EE Work Plan.

First Quarter FY94 Activity

DOE held a meeting with EG&G to discuss issues related to IHSSs in OUs 9, 10, and 15 that represent significant problems for characterization and assessment. In OU 10, IHSS 213 (904 storage pad) and IHSS 214 (750 storage pad) cannot be assessed until all materials stored there are removed. However, IHSSs 213 and 214 are going to be used to store sludge generated by OU 4 IM/IRA activities. DOE wants to transfer these IHSSs to OU 4; then OU 10 can complete Phase I assessment. The regulatory agencies are aware of these problem and have conceded to a delay in the assessment because of waste storage for OU 4

A meeting was held on October 18, 1993, between DOE and EG&G to discuss the Environmental Management Data Validation Plan (DVP). This plan outlines the data validation process that will be adopted for all environmental projects at RFP. This new process is intended to clarify the confusion over the definition of "100% validated data," as required by virtually all of the OU RFI/RI Work Plans. It is anticipated that this plan will reduce the turn-around time for final validated data packages, making data available much earlier than in the past.

The high purity germanium detector (HPGe) gamma survey in OU 10 IHSS 176, inside the Protected Area (PA), was completed by November 19, 1993. Additional data points were collected in the PA for other IA OUs, OU 9 and OU 13. The gamma survey crew detected activity from radioactive waste stored near the boundaries of IHSS 176 in Building 964 and in storage containers on the north side of the IHSS. Approximately 50 percent of the ground surface was blocked from the

HPGe field of view by materials stored outside of the IHSS boundary. No indication of point source radioactivity was detected. In addition to OU 10, the HPGe truck collected gamma radiation data on IHSSs for OUs 8, 9, and 14. This should take 1 to 2 months to finish all of the data collection for Phase I assessment.

A Memorandum of Understanding (MOU) is being drafted to document the responsibilities of various organizations at RFP regarding the removal of materials stored in or around OU IHSSs. DOE does not want EG&G Environmental Restoration Management (ERM) to fund the removal of materials from the OU IHSSs. Until this issue is resolved, no efforts will be made to begin work on removing all materials found in or around IHSSs 170/174 and 176. However, work will proceed in areas where material storage will not adversely affect data collection activities.

IAG MILESTONES THROUGH FY95 FOR OU 10	SCHEDULE	ACTUAL
Submit Draft Phase I RFI/RI Work Plan	27 Nov 91	27 Nov 91
Submit Final Phase I RFI/RI Work Plan	01 May 92	01 May 92
Submit Draft Phase I RFI/RI Report	25 Aug 94*	
Submit Final Phase I RFI/RI Report	30 Jan 95*	
Submit Draft Phase I Proposed IM/IRA Decision Document (DD)	26 May 95*	
Submit Draft Phase II RFI/RI Work Plan	27 Jun 95*	
Submit Final Phase I Proposed IM/IRA Decision Document (DD)	24 Oct 95*	
Submit Final Phase II RFI/RI Work Plan	21 Nov 95*	

* Extension required.

OU 11 - WEST SPRAY FIELD

OU Description

The West Spray Field is located within the Rocky Flats Plant buffer zone immediately west of the plant security area. The West Spray Field was in operation from April 1982 to October 1985. During operation, excess liquids from solar evaporation ponds 207-B North and Center (contaminated ground water in the vicinity of the ponds and treated sanitary sewage effluent) were pumped periodically to the West Spray Field for spray application. The spray field boundary covers an area of approximately 105.1 acres, 38.3 of which received direct application of hazardous waste. The RFI/RI process will entail field studies to investigate the presence or absence of hazardous constituents in soil and ground water.

First Quarter FY94 Activity

TM #1, *Revised Field Sampling DQO*, to revise the OU 11 Field Sampling Plan (FSP) is undergoing continued review. The COC section for the revised FSP is being rewritten. Preliminary Remediation Goals (PRGs) were also recalculated for the COC section of the revised FSP.

DOE approved the OU 11 revised Environmental Evaluation (EE). The new approach incorporates a three-phased ecological risk assessment. OU 11 needed this concurrence to incorporate this format change into the upcoming EE reporting process and risk assessment.

Ecological field work was completed for the season. Radiological screening has shown very low levels of radiation (lower than surrounding suburban areas). Research is underway on the feasibility and adequacy of using sonic drilling for the investigation because of the nature of subsurface materials in the West Spray Field. A categorical exclusion (CX) was obtained for the investigatory work proposed in the revised FSP at the West Spray Field.

IAG MILESTONES THROUGH FY95 FOR OU 11	SCHEDULE	ACTUAL
Submit Draft Phase I RFI/RI Work plan	08 Jun 90	08 Jun 90
Submit Final Phase I RFI/RI Work plan	02 Jan 92	02 Jan 92
Submit Draft Phase I RFI/RI Report	20 Sep 94*	
Submit Final Phase I RFI/RI Report	22 Feb 95*	
Submit Draft Phase II RFI/RI Work Plan	21 Aug 95*	
Submit Draft Phase I Proposed IM/IRA Decision Document (DD)	10 Oct 95*	

* Extension required.

OU 12 - 400/800 AREA

OU Description

OU 12 - 400/800 Area activity involves assessment and remediation of the 10 IHSSs at the 400/800 Area: Multiple Solvent Spills at the West and South Loading Dock Areas (IHSSs 116.1 and 116.2); Fiberglassing Areas North and West of Building 664 (IHSSs 120.1 and 120.2); Cooling Tower Ponds - north, east , south, and west of Building 460 (IHSSs 136.1, and 136.2); Building 881 - Conversion Site(147.2); Radioactive Site - South Area (IHSS 157.2); Acid Leaks (2) (IHSS 187); and Multiple Acid Spills (IHSS 189).

Assessment will consist of preparing a Phase I RFI/RI Work Plan, which will include both an EE and a HHRA. After implementation of this Work Plan, field work and sample analysis will be conducted, data will be analyzed, and the Phase I RI Report will be prepared. A Phase II Investigation may be performed as necessary. An FS to determine the best methods to remediate the area will be conducted as part of the assessment.

Remediation will consist of development and execution of a Remedial Action Plan based on results obtained during the assessment phase of the project. This process includes review and approval by the regulatory agencies, followed by a Record of Decision (ROD), release to the public, and implementation of the plan.

First Quarter FY94 Activity

OU 12 began work towards implementing the surficial soil sampling portion of the OU 12 Work Plan. All HPGe radiological survey locations were completed in the 400/800 Area. Because of the extensive gamma ray activity from Building 664, certain portions will have to be surveyed again. Another alternative would be to take surficial soil samples for radiological analysis and eliminate any in situ gamma measurements.

According to the integrated approach to field work among the IA OUs, OU 12 soil gas surveys are planned to begin after OU 10 has been completed; surficial soil sampling is scheduled to be conducted in the same manner. Sampling in OU 10 was delayed because DOE had additional comments regarding the HSP. The Readiness Review started December 5, 1993, and field work began on December 10, 1993.

IAG MILESTONES FOR FY95 FOR OU 12	SCHEDULE	ACTUAL
Submit Draft Phase I RFI/RI Work plan	08 May 92	08 May 92
Submit Final Phase I RFI/RI Work plan	05 Oct 92	05 Oct 92
Submit Draft Phase I RFI/RI Report	20 Apr 94*	
Submit Final Phase I RFI/RI Report	15 Sep 94*	

* Extension required.

OU 13 - 100 AREA

OU Description

Cleanup of the 100 Area involves the assessment and remediation of 14 IHSSs: Chemical Storage - North, Middle, and South Sites (IHSSs 117.1, 117.2 and 117.3); Oil Burn Pit #1 (IHSS 128); Lithium Metal Destruction Site (IHSS 134); Waste Spills (IHSS 148); Fuel Oil Tank (IHSS 152); Radioactive Site - North Area (IHSS 157.1); Radioactive Site - Building 551 (IHSS 158); Waste Peroxide Drum Burial (IHSS 169); Solvent Burning Ground (IHSS 171); Valve Vault 12 (IHSS 186); Caustic Leak (IHSS 190); and the Hydrogen Peroxide Spill (IHSS 191), and the Scrap Metal Site (IHSS 197).

Assessment will consist of preparing a Phase I RFI/RI Work plan, which will include both an EE and aN HHRA. After implementation of this Work Plan, field work and sample analysis will be conducted, data will be analyzed, and the Phase I RI Report will be prepared. AN FS to determine the best methods to remediate the area will be conducted as part of the assessment.

Remediation will consist of development and execution of a Remedial Action Plan based on results obtained during the assessment phase of the project. This process includes review and approval by the regulatory agencies, followed by a ROD, release to the public, and implementation of the plan.

First Quarter FY94 Activity

A response to comments and a final version of the Draft Compendium of *in situ* Radiological Methods and Applications at RFP were delivered to the regulatory agencies on December 1, 1993.

The sampling points in IHSSs 158/117.2 were relocated. A sampling map was generated. A letter report and sampling plan were prepared for approval by the regulatory agencies. The Sodium Iodide (NaI) survey of IHSS 197 was completed. The results indicate that the source of the higher HPGe readings is not in the accessible area of the IHSS. There were two elevated readings; surficial soils at these points will be sampled.

Work continues on the Standard Operating Procedures (SOPs). History files for the HPGe procedures G.T. 26-30, BAT sampling G.T. 22, and Tensiometers G.T. 31 were reviewed and turned over to RFP Environmental

Quality Support (EQS). Comments on GT.08 from the regulatory agencies were addressed.

HPGe survey of the small portion of OU 13 IHSS in the PA was conducted. Survey results from areas outside the PA were entered into the Geographic Information System (GIS) database. Discrepancies in the point locations from the Global Positioning Satellite System indicate that the base map of the plant has errors.

IAG MILESTONES THROUGH FY95 FOR OU 13	SCHEDULE	ACTUAL
Submit Draft Phase I RFI/RI Work plan	15 May 92	15 May 92
Submit Final Phase I RFI/ RI Work plan	12 Oct 92	12 Oct 92
Submit Draft Phase I RFI/RI Report	08 Aug 94*	
Submit Final Phase I RFI/RI Report	11 Jan 95*	

* Extension required.

OU 14 - RADIOACTIVE SITES

OU Description

Work at the "Radioactive Sites" involves the assessment and remediation of eight IHSSs: Radioactive Site - 700 Area Site #1 and Site #2 (IHSS 131); Radioactive Soil Burial - Building 334 Parking Lot and Soil Dump Area (IHSSs 156.1); Building 444 Parking Lot (IHSS 160) and Building 664 (IHSS 161); and Radioactive Site - 700 Area Site #2 (IHSS 162); and Radioactive Sites - 800 Area which includes the Concrete Slab, Building 886 Spills, and the Building 889 Storage Pad (IHSSs 164.1, 164.2, and 164.3). In 1991, one of two Soil Dump Area IHSSs (156.2) was deleted from OU 14 and added to OU 6.

Assessment will consist of preparing a Phase I RFI/RI Work Plan, which will include both an EE and an HHRA. After implementation of this work plan, field work and sample analysis will be conducted, data will be analyzed, and the Phase I RI Report will be prepared. An FS to determine the best methods to remediate the area will be conducted as a subsequent phase to the assessment phase.

Remediation will consist of development and execution of a Remedial Action Plan based on results obtained during the assessment phase and feasibility study of the project. This process includes review and approval by EPA and CDH, followed by a ROD, release to the public, and implementation of the plan.

First Quarter FY94 Activity

A meeting was held to brief the regulatory agencies on the status of the integrated OU project. A letter was prepared for transmittal to EPA requesting approval of the Final Work Plan for OU 14.

A construction project involving trenching across IHSS 162 for installation of a fiber optics line was proposed. If this project proceeds, a conservative approach for handling the excavated material will be adopted by requiring containment of the excavated material (soil and asphalt) in drums rather than just storing the material in a pile in the IHSS. Presently, there are no provisions in the Work Plan for sampling soil or asphalt out of drums. If this sampling becomes necessary, either a construction subcontractor will have to perform this work or the OU 14 scope will need to be changed to accommodate this sampling.

Large scale maps showing the proposed locations for surficial soil sampling were prepared for the integrated program. A comparison was conducted to ensure that the quantity and location of sites is consistent with the locations depicted in the FSP of the OU 14 RFI/RI Work Plan. DOE approval of the OU 14 Work Plan is pending.

IAG MILESTONES THROUGH FY95 FOR OU 14	SCHEDULE	ACTUAL
Submit Draft Phase I RFI/RI Work Plan	26 Jun 92	26 Jun 92
Submit Final Phase I RFI/RI Work Plan	19 Oct 92	19 Oct 9
Submit Draft Phase I RFI/RI Report	20 Dec 94*	
Submit Final Phase I RFI/RI Report	23 May 95*	

* Extension required.

OU 15 - INSIDE BUILDING CLOSURES

OU Description

OU 15 is composed of seven IHSSs: IHSS 178, Building 881 - Drum Storage Area; IHSS 179, Building 865 - Drum Storage Area; IHSS 180, Building 883 - Drum Storage Area; IHSS 204, RCRA Unit 45 - Original Uranium Chip Roaster; IHSS 211, RCRA Unit 26, Building 881 - Drum Storage Area; IHSS 212, RCRA Unit 63, Building 374 Drum Storage Area; and IHSS 217, RCRA Unit 32, Building 881 - Cyanide Bench Scale Treatment. The seven IHSSs currently have interim status under RCRA.

Closure Plans for the IHSSs were submitted to CDH during 1988 and 1989. The IHSSs were also included within the IAG to undergo a RCRA Facility Investigation/Remedial Investigation (RFI/RI). During scoping meetings for preparation of the Phase I RFI/RI Work Plan for Operable Unit No. 15 conducted between EPA, CDH and DOE during April 1992, the Closure Plan and RFI/RI Processes were combined. In effect, Clean Closure Performance Standard (6 CCR 1007-3, Part 265.111) will serve as the Applicable or Relevant and Appropriate Requirements for the OU 15 RFI/RI inside buildings and Closure Plans will no longer be prepared. The public comment period required for the Closure Plan process will be fulfilled through the IM/IRA process of the IAG.

Drums containing solids and liquids were stored at the OU 15 IHSSs. Types of waste included oils, coolants and solvents containing chlorinated hydrocarbons (RCRA F001 and F002 wastes) and waste paints and waste metals contaminated with solvents. Hazardous constituents include chlorinated solvents, beryllium, and uranium. The major activity proposed is characterization of contamination associated with the OU 15 IHSSs both inside and outside buildings and, if applicable, decontamination of the concrete floors at the indoor facilities and remediation of contamination outside buildings.

During April 1992, IHSS 215, Unit 55.13-Tank T-40, was deleted from OU 15 and added to OU 9 as part of a IHSS realignment pursuant to Part 32, Paragraph 191 (Additional Work or Modification to Work) of the IAG. This change was recommended by DOE in the OU 9 Phase I RFI/RI Work Plan approved by CDH and EPA in April 1992. Similarly, IHSS 212, RCRA Unit 63 was removed from the OU 15 RFI/RI process since it is

currently active as a Drum Storage Area and has been included in the Rocky Flats Plant RCRA Part B TRU Mixed Waste permit application.

First Quarter FY94 Activity

Completion of Stage I and II field work inside Building 447, IHSS 204, was delayed because of an equipment failure which occurred on November 4, 1993. However, OU 15 field work was completed on November 9, 1993. In order to prevent delays in the preparation of FSP TM #1, environmental samples obtained from Building 447, IHSS 204, were rushed for laboratory analysis. Preparation of the Phase I RFI/RI Work Plan for TM #1, *FSP*, continues.

Chemical analysis of the Stage I and II of OU 15 field work inside buildings was completed in December 1993 and it was available the end of December 1993 for evaluation. DOE received a chemical analysis Status Report in December 1993. An annotated outline of TM #1 was presented to EPA and CDH for review and comment in December 1993.

IAG MILESTONES THROUGH FY95 FOR OU 15	SCHEDULE	ACTUAL
Submit Draft Phase I RFI/RI Work Plan	01 Jun 92	01 Jun 92
Submit Final Phase I RFI/RI Work Plan	26 Oct 92	26 Oct 92
Submit Draft Phase I RFI/RI Report	01 Aug 94*	
Submit Final Phase I RFI/RI Report	04 Jan 95*	

* Extension required.

44

44

OU 16 - LOW PRIORITY SITES

OU Description

This assessment activity consists of preparing a "No Further Action Justification Document" for seven IHSSs: Solvent Spill, Antifreeze Discharge, Steam Condensate Leaks (400 and 700 Areas), Nickel Carbonyl Disposal, Water Treatment Plant Backwash Pond, and Scrap Metal Sites. In addition, the draft document must be reviewed, comments resolved, and the draft finalized.

First Quarter FY94 Activity

The No Further Action Justification (NFAJ) Document was approved by the regulatory agencies and DOE.

The Proposed Plan (PP) and draft modification of Colorado Hazardous Waste Permit for RFP OU 16: Low Priority Sites was finalized and approved for public comment by the regulatory agencies and DOE.

The following steps outline the schedule for the Public Comment Period and Public Hearings for the PP:

October 25, 1993 - EPA finalized the PP based on comments received by October 1, 1993.

November 2, 1993 - Final PP mailed to the community reading rooms.

November 8, 1993 - Public comment period begins for a 60-day duration.

December 8, 1993 - Public hearing held from 7:00 p.m. to 9:00 p.m. Denver Marriott West,
Golden, Colorado

November 8, 1993 - February 7, 1994 - Public Comment Period ends.

The public hearing held on December 8, 1993, for the OU 16 PP went very well. CDH indicated that a request to extend the Public Comment Period for the OU 16 PP/DM because of the holidays was received during the Public Comment Period. As a result of the request, the Public Comment Period for the OU 16 PP/DM was extended from January 7, 1994, to February 7, 1994.

A preferred alternative was announced to address OU 16. The preferred remedy for the soils is the "No

Action" alternative for IHSSs 185, 192, 193, 194, 195 within OU 16. These hazardous sites currently present no risk to human health and the environment. Past cleanup actions or natural processes have eliminated the hazardous substances. However, previous cleanup actions and natural processes may not have eliminated the hazardous substances for IHSSs 196 and 197 within OU 16. Therefore, IHSSs 196 and 197 were transferred for further investigation into OU 5 and OU 13, respectively.

IAG MILESTONES THOUGH FY95 FOR OU 16	SCHEDULED	ACTUAL
Submit Draft No Further Action Justification Document	04 Mar 92	04 Mar 92
Submit Final No Further Action Justification Document	30 July 92	30 July 92

SITEWIDE ACTIVITIES

OU Description

Sitewide activities include several tasks that encompass a wide variety of plans, procedures, reports, studies, and other activities required by the IAG and that apply to RFP environmental restoration activities in general. The activities include, but are not limited to, the HSP, a Sampling and Analysis Plan, a Plan for Prevention of Contaminant Dispersion, the Community Relations Plan, the Discharge Limits for Radionuclides Work Plan, Treatability Study deliverables, the Background Study Plan, Administrative Record, State Response (support for CDH oversight), Historical Release Report, Operations Management, Decontamination Facilities, Contractor yard support, ER Waste handling facilities, geologic characterization, hydrogeologic characterization, and ground water monitoring.

First Quarter FY94 Activity

Sitewide Treatability Studies

Annual Report - The Sitewide Treatability Studies Annual Report is an IAG milestone. The annual Report includes a summary of the status of each of the sitewide projects, a literature review of new and emerging technologies, and a summary of other relevant environmental projects at RFP. The final report (FY92) was delivered to the regulatory agencies on March 8, 1993.

Work commenced on the FY93 Annual Report as of October 1, 1993. Following interviews with ER personnel, the subcontractor submitted the first draft of the Annual Report on November 19, 1993. ER personnel reviewed this document and comments were returned to the subcontractor. The second draft was reviewed on December 17, 1993.

Magnetic Separation - The Magnetic Separation process was identified in the Final Sitewide Treatability Studies Plan for further test work and evaluation in order to determine how effectively it might remove plutonium contamination from RFP soils.

Based on the discussions with Los Alamos National Laboratory (LANL) and Los Alamos Technology Office (LATO), a whole soil sample was originally planned to be collected at RFP and shipped directly to LANL for tests. However, based on the evaluation of the tests results obtained from Lockheed, a decision was made

to perform treatability testing on small size fractions of RFP soil. Small size fraction soil was sent to the LANL facilities in November 1993. The contract to perform magnetic separation testing by LANL on RFP soil was finalized in December 1993. Tests are planned to start in January 1994.

Colloid Polishing Filter Method (CPFM) - This process uses a proprietary chemical complexing agent to remove heavy metals and/or radionuclide contaminants from waste water or ground water by precipitation and filtration. Ultimately, the contaminants are contained in a dried filter cake, and the treated water returned to the environment. Results of preliminary bench scale tests carried out at RFP in 1991 were favorable. EPA's Risk Reduction Engineering Laboratory (Cincinnati) was interested in supporting a demonstration of the CPFM at RFP through its Superfund Innovative Technology Evaluation (SITE) program.

After completion of the SITE Demonstration, the CPFM equipment was transported to the decontamination pad where decontamination operations were completed on October 1, 1993. The radiation survey of the CPFM equipment was successfully completed on October 18, 1993, allowing for offsite removal. The equipment left RFP on November 18, 1993.

Closure documentation for the three remaining open items on the Readiness Review Checklist for the project were forwarded to EG&G Facilities Operations Management (FOM) on November 22, 1993. Final closure notification was received for the Readiness Review Checklist from EG&G FOM on November 29, 1993.

Pu in Soils - Physical Separation (TRU/Clean) - The TRU/Clean process (physical separation) was identified in the Final Sitewide Treatability Studies Plan for further test work and evaluation to determine how effectively it might remove plutonium contamination from RFP's soils. Initially, this test work was planned to be a part of the Plutonium in Soils Integrated Demonstration (ID), but the ID was put on hold. Therefore, RFP has contracted with Lockheed Environmental Systems and Technologies Company to conduct testing of the TRU/Clean process with RFP's soils.

48

48

APPENDIX A: ISSUE PAPERS

SOLAR PONDS/PONDCRETE 94-ER-01

Issue

Closure of the Solar Ponds and shipment of pondcrete did not occur by the October 1991 deadline as specified in the Agreement in Principle (AIP) with CDH.

Background

The AIP requires removal of water, sludge, the conversion of sludge to a suitable material, and transportation of this material to disposal offsite.

Corrective Actions

1) In-progress activities to implement the water management IM/IRA,which missed three milestones in Fiscal Year 1992, were replanned and completed ahead of the new schedule. Completion of this subproject activity terminated placement of contaminated ground water into the ponds and provided a dedicated treatment facility.

2) The largest pond impoundment, Pond 207A, and two smaller Pond 207 B impoundments, were emptied of sludge and waste water. The wastes were consolidated in Pond 207B South.

3) The current approach for cleaning out sludges and stabilizing the liquids present in the ponds was re-evaluated. It was concluded that temporarily storing pond sludge in tanks would adequately minimize or eliminate the potential for environmental contamination while preserving the possibility of pursuing potentially more attractive alternatives for final disposition of the wastes.

4) The IAG milestones were replanned as part of a dispute resolution with the regulators. The pond closure schedule was accelerated about 16 months by eliminating some reports, shortening review cycles, and increasing informal interaction with regulators. The replanning effort included removal of pond wastes.

5) Treatment and disposal of the pond sludge will be replanned.

Scheduled Completion Dates	None in first quarter
Actual Completion Dates	None in first quarter
Current Status	Work to empty the solar ponds is proceeding well ahead of schedule because of a change in the technical approach. The sludge will now be moved using vacuum trucks rather than a pipe line.
Funding Status	Funding is available for the movement of sludge from the ponds to new poly tanks on the 750 storage pad. Funding needs for sludge treatment and disposal will be revaluated.

ONSITE SURFACE WATER MANAGEMENT 94-ER-02

Issue

Surface Water Management (Option J) at RFP includes management of the STP effluent and all surface runoff tributary to the eastern plant boundaries. The STP effluent is a significant percentage of total runoff.

Background

For some time Surface water quality at RFP has been a concern to local cities, DOE, EG&G, federal and state agencies, and the public because of the location of two drinking water reservoirs immediately downstream of the plant. Great Western Reservoir and Standley Lake provide drinking water to communities in the vicinity of the plant. Concerns were intensified by relatively minor but highly visible incidents including the chromic acid incident and the atrazine observation in the terminal ponds. The FBI and EPA investigation of alleged violations caused severe concern by nearby residents. Current plans evolved from technical requirements identified by plant personnel, DOE Orders, changing regulations, and various agreements with cities and regulatory agencies. These plans are consistent with the Option J Selected Onsite Improvements developed by a working group formed in the summer of 1989 at the request of Congressman David Skaggs (2nd U. S. Congressional District) to address water management options at RFP.

Corrective Actions

Onsite Water Management projects (Option J) are aimed at improving pond dam safety and water control operations, upgrading effluent treatment capabilities, improving site drainages and flood control, and minimizing downstream discharges of plantsite waters.

The improvement of dam safety is a critical component of RFP surface water management. The terminal dams were originally designed for short-term stormwater retention. Current efforts to satisfy the Agreement in Principal (AIP) make short-term retention difficult and often impossible. Long-term retention has created several dam safety concerns which are being investigated in order to determine what measures are necessary to allow pond operations to continue in a safe manner and to avoid uncontrolled discharges. The improvement of water control operations currently includes the installation of

environmental monitoring stations to characterize RFP surface waters within major drainages.

All surface water discharges customarily meet or exceed local water quality standards. Treatment upgrades are required to improve preparedness for unforeseen conditions and are in anticipation of future, more restrictive, standards. Removal of radionuclides at extremely low levels is a major focus of these upgrades.

Improving site drainages and flood control is for the purpose of protecting plant facilities and property, maintaining or improving emergency response capabilities during large storm events, reducing contaminant transport potential during large store events, and providing runoff and spill controls consistent with Clean Water Act Pollution Prevention Best Management Practices. Over the years, plant development has increased the percentage of impervious surfaces and thus created significant increases in storm runoff from a given storm event size. Downstream drainage systems originally designed with sufficient capacity to satisfy DOE Orders are no longer adequate. In addition, many of the drainage structures are clogged with debris and sediment, further compounding runoff control problems. Reconstruction of the South Interceptor Ditch (SID), Building 991 flood protection, Central Avenue drainage repairs, A-1 and B-1 Ponds Bypass enhancements, and developing routine maintenance capabilities are key projects under improving site drainages and flood control.

Minimizing downstream discharges helps reduce operating costs and the potential for regulatory violations associated with pond discharges, helps satisfy AIP Zero Discharge goals, and improves dam safety by decreasing water volume retention requirements. Projects include the recycling of Pond C-2 water into the raw water system for cooling down usage, and enhancing spray evaporation capabilities.

Scheduled Completion Dates

Environmental Monitoring Stations	July 1994
Drainage Repairs and Improvements Plan	August 1994
Terminal Dams Geotechnical Evaluation	October 1994
Pond C-2 Discharge Minimization	March 1995
South Interceptor Ditch Reconstruction	May 1995

52

Actual Completion Dates	NA
Current Status	In Progress
Funding Status	Funding responsibility was transferred to EM-40 in FY93. Funding is expected to continue of ongoing projects. Funding for other projects is unknown for FY95 at this time.

POND WATER MANAGEMENT IM/IRA 94-ER-03

Issue

Surface Water Management (Option J) at RFP includes management of the STP effluent and all surface runoff tributary to the eastern plant boundaries. The Sewage Treatment Plant (STP) effluent is only a small percentage of total runoff.

Background

For some time Surface water quality at RFP has been a concern to local cities, DOE, EG&G, federal and state agencies, and the public because of the location of two drinking water reservoirs immediately downstream of the plant. Great Western Reservoir and Standley Lake provide drinking water to communities in the vicinity of the plant. Concerns were intensified by relatively minor but highly visible incidents including the chromic acid incident and the atrazine observation in the terminal ponds. The FBI and EPA investigation of alleged violations caused severe concern by nearby residents. Current plans evolved from technical requirements identified by plant personnel, DOE Orders, changing regulations, and various agreements with cities and regulatory agencies.

Corrective Actions

All surface discharges customarily meet or exceed local water quality standards. Corrective Actions are required to improve preparedness for unforeseen conditions and in anticipation of future, more restrictive, standards. Some are required by agreements and others are necessary for effective management of runoff. These Corrective Actions will be addressed by a Pond Water Management IM/IRA Decision Document (DD), as detailed below:

Request for IM/IRA - DOE, DOE, and EG&G were initially notified by EPA in December 1991, June 1992, and October 1992 that the Clean Water Act (CWA) coverage of the RFP surface water ponds would be removed under the new NPDES permit. EPA and CDH promulgated the use of the CERCLA process to supplant the CWA permit in regulation of the ponds and their discharges. The justification for EPA's position was that "treatment" (apparently even natural settling/clarification processes) was not allowable in "waters of the U. S." This natural settling occurs and is readily acknowledged since the ponds were

intentionally designed and constructed as storm water clarifying impoundments and as emergency spill catchment with exactly that purpose in mind.

The regulatory agencies generally acknowledge that the ponds serve a valuable buffering function and provide the option of collecting contaminants in the event of upsets or spills, and thereby reduce the spread and associated risk of health and environmental impacts. DOE has decided not to contest the issues of whether the ponds constitute waters of the U. S. and; therefore, the hazardous waste and RCRA issues currently exempted under the CWA may apply. Pond management strategy now shifts from water management to control of water, sediments, and associated contaminants in accordance with hazardous waste and other applicable regulations. DOE formally initiated dispute resolution in November 1992 under the IAG with the IM/IRA and withdrew same in November 1992, although the dispute may be reopened if DOE chooses.

Scheduled Completion Dates

Complete Draft IM/IRA Decision Document November 1993	A new schedule is being reviewed.

Actual Completion Dates

November 22, 1993

Current Status

The pond water IM/IRA is under development. All FY94 activities with the exception of the IM/IRA and monitoring stations are in the planning and design stages. Out-year activities are pending, waiting verification of support.

Funding Status

Funding responsibility was transferred to OU 6, Walnut Creek. Funding is expected to continue for ongoing projects. Funding for other projects is unknown for FY95 at this time.

RFP OFFSITE SURFACE WATER MANAGEMENT 94-ER-04

Issue

Option B - Offsite Water Management. Option B is a combination project protecting water supplies downstream of RFP. It consists of a 100-year precipitation retention and diversion facility on Woman Creek to protect Standley Lake (the drinking water supply of the local cities of Westminster, Arvada, Northglenn, Federal Heights, and Thornton), and to eliminate Great Western Reservoir as a water supply for the city of Broomfield, with the procurement of an equivalent replacement water supply.

Background

In June 1989, 75 federal agents from the FBI and EPA entered RFP to investigate allegations of criminal violations of federal environmental laws. Among the allegations was the discharge of hazardous materials to streams leaving the plant and flowing into nearby municipal water supplies. Although the allegations precipitating the FBI/EPA raid were never substantiated by a federal grand jury, previous plant operations have caused local communities to be concerned.

Various contamination incidents, leading to the FBI/EPA raid, led to public concern and a series of actions to protect municipal water supplies. The city of Broomfield was the first to take immediate steps. During the raid, the city constructed a small canal to divert plant discharge and runoff around Great Western Reservoir. This satisfied the immediate concern of ongoing contamination of their water supply; however, city officials acknowledged that this was only a temporary measure until a permanent fix might be achieved.

Local community leaders believed that nothing short of total separation of the community water supplies from plant effluent and runoff was acceptable. Citing public concern about the safety of their water supplies and the possibility of a future plant spill that might contaminate those supplies, officials from the city of Broomfield approached DOE requesting construction of a new dam on RFP of sufficient size to contain the probable maximum flood (PMF) from the facility. The plant manager agreed to work with city officials to examine alternatives. Broomfield officials then contacted other municipalities (dependent on Standley Lake) for representatives to form an Option Review Group. Participants included representatives from Arvada,

Broomfield, Federal Heights, Northglenn, Thornton, Westminster, Jefferson County, CDH, EG&G, DOE, EPA, officials from the offices of Governor Romer, U.S. Senator Tim Wirth, U.S. Senator Hank Brown, U.S. Representative David Skaggs, and former U.S. Senator William Armstrong. This group met for several months to evaluate options, and drafted a plan called Option B to divert all waters coming off the plantsite from downstream drinking water supplies.

In the meantime, DOE was developing the Zero Discharge Study and the Surface Water Management Plan to address methods of protecting downstream users and societal concerns such as perception. However, because of constituent pressures and fear of bureaucratic delays, city officials were unwilling to wait for the RFP planning and budgetary process to implement these management plans. Consequently, the cities worked closely with their congressional representatives to formulate language supporting the project and introduced legislative authorization for DOE to issue a grant to reimburse the cities for Option B project costs. The project received commitment from, Admiral Watkins, who was the Secretary of Energy at the time.

Corrective Action

NA

Scheduled Completion Date

The funding grant to the cities for the $101 million to execute all of the Option B components was approved in the summer of 1992. Funding for the Option B project will be carried through 1996. Proposed completion dates for some of the major elements of the project are:

1)1993 -Completion of replacement water rights purchase for the City of Broomfield.

2)1994 - Pipeline from Standley Lake Diversion to Great Western Reservoir in place for future use.

3)1995 - Offsite Woman Creek Reservoir. Water transmission system for Broomfield replacement water supply.

4)1996 - New water treatment plant for Broomfield. Transmission lines for Broomfield drinking water supply.

Actual Completion Dates

April 1, 1993, Broomfield water rights purchase complete.

Current Status

Broomfield completed its purchase of water rights from the city of Boulder. Right- of-way acquisition for the raw water pipeline should be complete by the end of 1993, as well as purchase of the property site for the new water treatment plant. The cities involved in the Standley Lake Protection Project (SLPP) decided to remove the diversion canal from the project because of local neighborhood opposition to the proximity of the canal to their houses, and Endangered Species Act (ESA) constraints regarding a bald eagle nesting site next to the proposed alignment of the canal. The cities are working on a biological assessment for the SLPP with DOE as the lead agency for Section 7 consultation under the ESA because of the seasonal presence of the bald eagles in the area.

Funding Status

FY funding will be an ER responsibility. FY94 funding is $10 million, with a carryover of unobligated funds from FY92 and FY93 of $24 million. This agreement is based on a Secretary of Energy commitment to the cities involved.

INDUSTRIAL AREA (IA) OPTIMAL INTERIM MEASURE (IM)/ INTERIM REMEDIAL ACTION PLAN (IRAP) 94-ER-05

Issue

It is generally acknowledged that certain aspects of the Remedial Investigation/Feasibility Study (RI/FS) work scheduled for the Industrial Area (IA) may be difficult to perform under the present conditions that exist in this area, and that some of this work would be more effectively performed as a part of the Plant Transition and Decontamination/Decommissioning program (D&D). It was suggested that if this work is to be deferred, it would be prudent to implement a more comprehensive monitoring program to detect releases that may occur during the interim. Furthermore, Transition and D&D could represent non-routine activities that may increase the risk of spills or other unplanned releases. It was requested that the monitoring network be sufficient to provide early detection of these potential releases so that a response may be enacted before an offsite release occurs, as well as provide recommendations for environmental pathway protection and monitoring to be completed during D&D activities.

The project will evaluate the present monitoring network with respect to potential exposures and migration pathways. This evaluation will include the monitoring of building storm and footing drains and will address their influence on contaminant migration pathways. If necessary, a plan would be implemented that would address deficiencies in the current monitoring network. Additionally, the IM/IRA plan for the IA will evaluate the current administrative guidelines that are in place for the disposition of incidental waters that collect in footing drains, sub-basements, sumps, and valve vaults. The IM/IRA plan will provide recommendations for guidelines for the handling of these waters if none currently exist.

Background

The regulatory agencies were receptive to the idea of an IRAP for quite some time. In July 1993, a project scope and schedule was presented to the regulators and an agreement was reached. The FY94 work package was built around this scope and schedule.

Corrective Actions

NA

61

Scheduled Completion Dates

IAG MILESTONE	DUE DATE
Submit Draft Decision Document	3/23/94
Submit Draft Responsiveness Summary	8/2/94
Submit Final Responsiveness Summary	8/23/94
Submit Final Decision Document	8/23/94
Scheduled Completion Date of Project	9/7/94

Actual Completion

NA

Current Status

Currently, the project is running slightly ahead of schedule. Subcontract awarded September 30, 1993. Data collection and analysis is taking place and a draft document outline is expected to be produced in December 1993.

Funding Status

Funding of this project for FY94 is $1.36 MM.

STORAGE SPACE 94-ER-06

Issue

Handling, transportation, storage, and disposal of ER generated material.

Background

ER-generated solid material and liquids must be handled, packaged, transported, stored, and disposed of in accordance with regulatory requirements. Material includes solids from drill cuttings, personal protective equipment (PPE), sediments from the decontamination facility settling tanks, and potentially, ER-generated solid and liquid waste from IRAs. Drill cutting handling requirements are currently being addressed with CDH. There are no direct requirements for managing drill cuttings, and EM does not consider them "waste" under the RCRA definition, requiring strict RCRA management, especially prior to characterization.

Pending concurrence from CDH for the drill cutting handling procedure, the cuttings will be managed based on prior process knowledge until analytical characterization can be made.

Limited physical and permitted storage space on plantsite constrains RFP's ability to appropriately store investigative derived materials (IDM). Reaching the capacity for storage of IDM from IHSS pending characterization and issuance of the ROD may impact ER activities.

RFP currently does not have adequate permitted storage space for IDM.

If limited storage capacity for IDM curtails assessment activity and an IAG milestone is missed, DOE may be assessed a penalty of $5,000 for the first week and $10,000 for each week thereafter.

Corrective Actions

A standard operating procedure was developed for the management of IDM, FO.23, Management of Soil and Sediments IDM. Discussions are still being carried out with CDH concerning the scope and character of the procedure.

Interim status approval was granted to two RCRA storage units, 18.03 and 18.04. Plans for installing a structure at Unit 18.04 are currently being implemented; however, in lieu of a separate storage facility, efforts are

currently being undertaken by DOE and EG&G personnel to determine the feasibility of expanding the Centralized Waste Storage Facility for IDM storage. This would result in a cost saving as well as accelerate the schedule for when IDM storage could be made available. Because of the pressing need for additional storage, efforts will continue on the procurement of a separate facility until the feasibility of using the Centralized Waste Facility is verified.

Environmental Restoration (ER) will continue to evaluate its future storage requirements and track the availability of existing buildings on plantsite. If additional storage is needed then, utilization of existing structures will be pursued if practical and feasible. If existing structures are not available, then the construction of an additional facility will be necessary.

Scheduled Completion Dates

If it is not possible to utilize the Centralized Waste Facility and IDM structure, the IDM structure will be constructed using the following schedule:

Winter 1994: Procurement of design/build subcontractor.

Spring 1994: Initiate design activities including preparation of the Integrated Work Control Program (IWCP) package, Health and Safety Plan (HSP), drawings, and design submittals.

Summer 1994: Complete design activities and initiate construction.

Winter 1995: Complete construction.

These activities are dependent on approval of the environmental assessment in spring or summer of 1994.

Action Completion Dates

CDH granted interim status under RCRA Subpart A on August 30, 1991.

RFP is currently negotiating with CDH concerning the handling and management of IDM.

Current Status

RFP is currently waiting for CDH approval of the RCRA permit modification for the interim status units.

A procurement package is being finalized for the design and construction of the IDM storage facility. Efforts by DOE and EG&G to utilize the Centralized Waste Storage Facility are in progress.

Funding Status

Funding estimates are included in the Five-Year Plan (FYP). FY94 costs for the construction of an IDM storage building are completely funded.

CHANGING ENVIRONMENTAL RESTORATION (ER) PROGRAM REQUIREMENTS 94-ER-07

Issue

Changing Environmental Restoration (ER) Program Requirements

Background

Evolving and changing ER Program requirements, as well as the use of preliminary and unsubstantiated data in the development of the program's cost and schedule basis, threaten RFP's ability to meet commitments to external agencies without proportionate budget and schedule adjustment. The continuing changes to scope of work, technical requirements/standards criteria, and management/regulatory requirements, along with the numerous review cycles, necessitate that the project schedules and/or budgets be adjusted. Specific examples of the above include addition of the Decontamination and Decommissioning (D&D) program due to the plant Transition, the constantly changing security measures required for work performed in the PA, the requirement by DOE Order 5480.23 (April 30, 1992) that Safety Analysis Reviews (SARs) be performed prior to initiation of remediation/construction activities, implementation of DOE Order 4700.1 after the RFP ER project was made a major systems acquisition (MSA), schedule and cost impacts resulting from recent EM-40 funding holdback guidance, and additional procurement requirements implemented throughout the DOE.

The primary ER regulatory drivers at RFP are the IAG, RCRA, and CERCLA/Superfund Amendments and Reauthorization Act (SARA) of 1986. RFP needs to maintain compliance with regulatory requirements set forth in the IAG. If IAG milestones are not met, penalties of $5,000 for the first week and $10,000 for each week thereafter may be assessed and possibly invoked for each missed milestone. Funding limitations during one fiscal year may result in numerous missed milestones in the out years with no ability to make up schedule delays.

The IAG schedule does not have the flexibility to accommodate time requirements necessary to satisfy additional requirements imposed on the program or to incorporate changes to the original cost and schedule basis of the program. In addition, the federal budget planning system is not flexible enough to accommodate technical scope changes of ER projects in a timely manner.

Corrective Actions	Modification of the IAG is necessary to accommodate the cost and schedule impacts associated with changes to the ER Programs dictated by the regulatory agencies and DOE. The modification should incorporate the results of the strategic planning effort to optimize the use of limited resources and the integrated roadmap. For example, an acceleration of closure for OU 4 is being negotiated and will require redistribution of ER Program funds from other projects into OU 4. This redistribution must be viewed as good cause for schedule delays in the projects that have lost funding, or DOE will incur penalties when milestones are missed.
Schedule	Discussions with the regulatory agencies are continuing, but no date for amendments to the IAG has been established.
Actual Completion Date	N/A
Current Status	See "Background"
Funding Status	N/A

SOLAR EVAPORATION PONDS/OU 4 MILESTONES IN JEOPARDY 94-ER-08

Issue

Solar Evaporation Ponds/OU 4 Milestones in Jeopardy

Background

Delays in project execution have caused RFP to miss one IAG milestone, and a second would have been missed in October 1993. The regulatory agencies have refused the requested schedule extension, and a dispute resolution was used to determine new dates.

Corrective Action

The regulators indicated they would not grant any more time for the extension and recommended that DOE initiate the dispute resolution process in accordance with the IAG. DOE invoked this process. As part of this process, DOE and the regulators discussed new "best effort" schedules for removing the sludge from the ponds, eliminating the need for the two milestones under dispute, deleting two other milestones by combining documents, adding a new IAG milestone for emptying the ponds, and starting closure construction about 1 year earlier than planned in the IAG. Corrective Actions are complete and this issue is resolved.

Scheduled Completion Dates

DESCRIPTION	ORIGINAL IAG DATE	REVISED DATE
Submit Draft Phase I RFI/RI Report	5/21/93	Delete
Submit Final Phase I RFI/RI Report	10/18/93	Delete
Submit Draft Proposed IM/IRA D&D) (with enhanced conceptual design	4/14/94	4/14/94
Submit Proposed IM/IRA DD	9/12/94	6/24/94
Submit IM Design Work Plan (replaced with in-process design review)	5/24/95	Delete
Submit IM/IRA Responsiveness Summary	1/25/95	11/1/94
Submit Final IM/IRA DD and Responsiveness Summary	4/24/95	1/13/95
Submit IM/IRA Implementation Document (combined with Title II Design Submittal)	2/26/96	Delete
Submit Final IM/IRA Title II Design	6/24/96	2/10/95
All Solar Ponds emptied of waste and sludge	New	1/20/95

69

Begin Phase I IM/IRA Construction	1/28/97	9/27/95

Actual Completion Date 9/30/93 (Dispute resolution completed)

Current Status N/A

Funding Status Funding is available for preparation of the IM/IRA DD and related documents. Funding for the closure structure is tentatively planned and will be re-evaluated when a conceptual design cost estimate is available.

RFEDS DATA CLEANUP FOR OPERABLE UNIT (OU) 1 94-ER-09

Issue

RFEDS Data Cleanup for OU 1

Background

Data from RFEDS was extracted and provided to the OU 1 project for the preparation of the OU 1 Final Phase III RFI/RI Report. This data required some "cleanup" that took the OU 1 project 3 weeks to perform before analysis could take place. The OU 1 project outlined the "cleanup" tasks that were performed. The communication of the issues to the SM organization was concise, constructive, and has provided the RFEDS staff with concrete issues that can be corrected.

Specific Issues

Some laboratory records do not match the validation records. These data are currently represented by two different records in RFEDS. These two records, however , are only one legitimate data point. This is primarily a historical data problem found in 1990 and 1991. This problem does not exist for 1992 to present data.

Some records are not accurately labeled in RFEDS. For example, the laboratory did not correctly mark the replicate analysis distinctly from the target sample. This manifests itself as an apparent multiple record in RFEDS and/or confusion regarding the accurate unit of measure. This is primarily a historical data problem found in 1990, 1991, and 1992 data. This problem does not exist for 1993 to present data. Resolution of Duplicate Entries in RFEDS was completed.

Some dates in RFEDS do not conform to a consistent format (ie. MM/DD/YY). Resolution of date problems in RFEDS was completed.

Some units of measure that do not match the sample type. For example, a surface water unit will have a solid unit of measure. Incorrectly identified sample types were identified and not resolved. The project is delayed until Sun 2000 is acquired. All incorrect units identified to RFEDS staff by the user community were resolved.

The RFEDS list of codes does not contain all the entries that were used in the database.

Communication must improve. Communication was not clear between the project staff and the RFEDS staff. The

organization of the ASCII files, the missing dry event data, and the data extraction format were all areas of confusion that took multiple meetings to understand.

Additional training and guidance was requested by the project staff on how to interpret the data. Some meetings were held specifically to instruct the project staff on the utilization of analytical data and the working assumptions that are valid to use in data interpretation. More instruction on data and database handling would additionally reduce the amount of project time required for report generation.

CORRECTIVE ACTION

The goal of the sample management team is to eliminate the identified data cleanup/useability difficulties for all other projects using environmental data. The sample management organization has created a Continuous Improvement (CI) team. This team is identifying the issues and projects that are required to meet the environmental needs. This team will assess the impact and priority of the tasks with the appropriate staffing, schedule and budgeting required.

The data issues are all resolvable directly within RFEDS and interfacing with other project groups. Data problems are addressed on a project by project basis. Many of the specific samples and records identified by the OU 1 project have already been corrected in RFEDS. All documentation assembled by OU 1 needs to be provided to RFEDS staff for further resolution. Project personnel are depended on to inform RFEDS when discrepancies and problems are identified.

The communication issues may be improved by creating a more formal approach to extracting data for the projects. The data retrieval will begin with a standard meeting agenda that will cover the data issues and agreements that are necessary between the database group and the user community. This will improve the understanding of both parties and provide a better platform for further communication.

The sample management group is developing a system that will generate reports and allow project files to be used within the RFEDS environment instead of external to the system. This will require that the data issues are resolved within RFEDS. These project files will reduce

72

the cost of report generation by removing the requirement for external development of data structures, system software and hardware required within each project. These things will no longer be necessary.

Computer programs are being developed to identify the problems identified by OU 1 in the entire RFEDS. These programs will identify invalid dates, inconsistent units, duplicate entries, and incorrectly identified sample types. All resolvable problems will be corrected as quickly as possible. The disseminated data will have less problems than OU 1 data had.

Scheduled Completion Dates

The OU 1 data cleanup with RFEDS will be completed 3 months after the OU 1 project provides the documentation regarding all the external changes to the data.

The CI team has already been created and the priority of project development was available in July 1993.

The improved communication platform and the data retrieval meeting agenda was available in August 1993.

The standard report generators and the project file management within RFEDS will be available in January 1994. Standard reports from RFEDs were postponed until the Sun 2000 acquisition is completed.

The problem identification project was completed in July 1993.

Because of the delay in SUN 2000 acquisition, RFEDS has continued to address areas of concern that can be worked until SUN 2000 acquisition (i.e. RFEDS presently implementing a Quality Assurance (QA) electronic check program).

Actual Completion Dates

NA

Current Status

See "Corrective Status."

Funding Status

NA

FUTURE LAND USE 94-ER-10

Issue

Future Land Use

Background

Intended land use is an important factor when considering environmental remediation goals and strategies. The cost of remediation can vary significantly depending on how the land will be used and how humans and ecological receptors come into contact with residual materials. Without clear direction with respect to how the Rocky Flats Plant (RFP) will be used in the future, Remediation Programs must assess the risks and remediation costs for all reasonable future-use scenarios. Additionally, without direction on future land use, it is not possible to develop a cohesive strategy to promote remediation to the most desirable use.

This issue has become more prominent recently because of the advancement of individual OU risk assessment, implementation of Section 154 of the IAG (Comprehensive Risk Assessment [CRA]), development of the Sitewide Environmental Impact Statement (SWEIS), and workings of the Rocky Flats Local Impacts Initiative.

Remediation analysis guidance from the EPA does not specify a land use to be used for the baseline case; however, it is strongly inferred that application to a residential setting is desirable. DOE-HQ has not issued guidance to RFP with respect to assumed land uses.

Corrective Action

A formal determination as to the future use of RFP should be made and integrated into the overall remediation management and economic development programs. It is strongly recommended that the currently industrialized portion of RFP be reserved for industrial use and the buffer zone be designated as an ecological reserve. In order to strengthen this position, it is further recommended that DOE solicit guidance from the General Service Administration (GSA) and the Department of Justice (DOJ) regarding the government's position on release of Federal Lands for private use.

Schedule Completion Dates

The current practice is to evaluate risks and develop remedial action alternatives for an array of land uses including residential, ecological study, and light industrial scenarios. In the short term, this over-analysis will result in added cost to the Baseline Risk Analysis and Feasibility Study facets of the remediation program, which could total to $1-2 million (FY93) over what would be required if a single land use were declared. In the long term, the cost impact could be much greater. This is because until a land use is declared and accepted within the community, DOE will likely face pressure to clean up to the most stringent case possible. It has been estimated that cleaning up to the most stringent case (residential at 1-in-1 million residual cancer risk) versus a more reasonable future land use (e.g., light industrial use with worker exposure levels in compliance with all occupational health limits) could result in a remediation cost difference of hundreds of millions of dollars when summed across all operable units.

Actual Completion Date

N/A

Current Status

See "Background."

Funding Status

N/A

COLORADO WATER QUALITY CONTROL COMMISSION (CWQCC) 94-ER-11

Issue

Colorado Water Quality Control Commission (CWQCC)

Background

The CWQCC will be holding hearings to review water quality standards that may have an impact on RFP activities in the future. State standards are considered when determining ARARs and will also have an effect on future NPDES discharge permits for effluent and storm water. Radionuclide discharge standards are expected to be written into the next NPDES permit based on statewide standards.

Previous CWQCC actions have defined strict stream standards for the waters on plantsite. Compliance is not always feasible without great expense.

Additionally, the commission sets both statewide and site-specific standards for ground water.

Both ground water and surface water standards have significant potential impact on environmental protection and remediation programs.

Corrective Action

None. RFP continues to participate in the hearing process and made its position and desires known to the state rule makers.

SCHEDULE

• South Platte Basin-wide Standards	April 1994
• Prehearing statement	Feb 1994
• Statewide ground water Standards	Dec 1993
• Statewide Radionuclide Standards	Unknown
• RFP Site-Specific Radionuclides Standard	Unknown

Actual Completion Date

N/A

Current Status

In Progress

Funding Status

DECONTAMINATION AND DECOMMISSIONING (D&D) PROGRAMMATIC EXPECTATIONS ARE UNDEFINED 94-SWD-12

Issue

Decontamination and Decommissioning (D&D) Programmatic Expectations Are Undefined

Background

D&D programmatic expectations are undefined. Under certain circumstances, the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) or Resource Conservation and Recovery Act (RCRA) may drive the initiation of D&D-type activities, but these statutes are not universally applicable to all D&D projects.

As part of DOE's evaluation of the regulatory options under D&D, DOE is developing a procedure for D&D that will be the functional equivalent of the existing CERCLA remediation process.

There is no formal integration plan for D&D activities in the ER program. In addition, there is no single regulatory driver that requires the conduct of D&D per se. For example, the DOE Organization Act states that one purpose underlying the creation of DOE is to "advance the goals of restoring, protecting, and enhancing environmental quality, and assuring public health and safety" (Section 102 [13]) but does not specify that particular actions (such as D&D) must be taken to meet these goals.

Corrective Action

DOE should carefully weigh the advantages and disadvantages of voluntarily applying CERCLA requirements to D&D activities and/or including the D&D activities under regulatory compliance agreements. These decisions should be made on a site- or project-specific basis. Focused planning should be emphasized to determine impacts to and/or integration with current regulatory agreements.

Schedule

The fiscal impacts of undefined programmatic expectations are uncertain at this time. Additional costs and administrative requirements for planned D&D projects can be expected upon further development of transition and D&D objectives. An immediate need to raze one small RCRA treatment and storage building was identified to support newly renegotiated IAG milestones for OU 4, and this building will need to be

	handled before D&D programmatic expectations are defined.
Actual Completion Date	N/A
Current Status	Activity Data Sheets (ADSs) have been developed.
Funding Status	$500K is planned for D&D funding in FY94. This level of funding is significantly less than the $16 million request in FY94.

APPENDIX B: TIGER TEAM STATUS

ENVIRONMENTAL ASSESSMENT STUDY (EAS) "TIGER TEAM" CORRECTIVE ACTIONS

The following section presents the status of EAS corrective actions as of March 31, 1993. The information is an output of the Commitments Tracking System and represents significantly improved, more timely information on "Tiger Team" actions as compared to previous DOE Quarterly Environmental Restoration Compliance Action reports.

The information presents the ISP number for tracking the completion of each action plan, the manager responsible for the plan, due date and completion dates for each task within the plan, individual task manager and task description, the completion certification date when the plan manager certifies that all plan tasks are completed, the verification date when Performance Assurance verifies that plan activities are complete, and the plan status as of the report date. Plan status may be "open," meaning work continues on one or more tasks; "in verification," meaning the plan manager has certified that plan activities are complete and that this is being verified by Performance Assurance; "reopened," meaning Performance Assurance has determined that not all plan tasks have been completed and independently verified.

The Commitments Tracking System follows procedures defined under RFP Administrative Manual ADM 1-10000, Section 3.02. These procedures require that each task be certified as complete by the individual task managers through an Interim Completion Certificate. Once all tasks within a plan are completed, the plan manager submits a completion certificate. Performance Assurance then performs an audit to verify that all requirements specified in the plan have been met. DOE, RFO is formally notified once verification is complete. Task completion deadlines may be extended by task managers upon completion of a Status Revision form and written concurrence by the plan manager. The Commitments Tracking System is updated daily with new status information.

Plant Action Tracking System
Plan Summary Report

Org Name	Org No.	Plans Open	Re-open	Final Cert Due	Action Plan Due	Plans on Hold	Ref to Oth Plans	Complete	Ver	Closed	Total
Env Restoration Mgt	11000	0	1	0	0	3	1	0	0	12	17
Env & Waste Mgt	20000	0	0	0	0	0	0	0	1	0	1
Analytical Labs	21000	1	0	0	0	0	0	0	1	2	4
Syst Integration & Mod	21010	1	0	0	0	0	0	2	0	0	3
74/910 LWT	22100	1	0	0	0	0	0	0	0	1	2
Waste/Res Asy & Stor	22300	1	0	0	0	1	0	0	1	1	4
Regd & Santry Waste	22400	1	0	0	0	0	0	0	1	3	5
Waste Solidification	22500	0	0	0	0	0	0	0	1	0	1
Bldg 374 LWT	22600	1	0	0	0	0	0	0	0	1	2
Waste Programs	23010	0	0	0	0	0	0	0	1	3	4
Waste Proj Support	23200	0	0	0	0	1	0	0	0	0	1
Waste Reg Programs	23300	0	0	0	0	0	0	1	0	4	5
RCRA Reg Programs	23400	0	0	0	0	0	0	2	0	3	5
Waste Minimization	23500	0	0	0	0	1	0	0	0	2	3
Env Prot Mgt	25000	0	0	0	0	2	0	2	0	0	4
Air Quality	25100	0	0	0	0	1	0	0	0	1	2
Ecology & NEPA	25200	0	0	0	0	0	0	0	1	6	7
Surface Water	25300	1	0	0	0	0	0	0	0	4	5
Chem Track/SARA RP	25500	1	0	0	0	0	0	0	1	0	2
771/774 Area Ops	31400	0	0	0	0	0	0	0	0	1	1
Facility 991	32330	0	0	0	0	0	0	0	0	1	1
FPM Project Serv	44600	0	0	0	0	0	0	0	0	1	1
Emerg Preparedness	64000	0	0	0	0	0	0	0	0	1	1
Stress Mach Engr	82300	0	0	0	0	0	0	0	0	1	1
Mach/Proc Engr	83000	0	1	0	0	0	0	0	0	0	1
Process Tech & Support	86000	0	0	0	0	0	0	0	0	1	1
Area Mtce	91000	0	0	0	0	0	0	0	0	1	1
Central Mtce	92000	0	0	0	0	0	0	0	0	1	1
Logistics	94000	0	0	0	0	0	0	0	0	3	3
Traffic	94700	0	0	0	0	0	0	0	0	1	1
Metrology	95000	0	1	0	0	0	0	0	0	0	1
Plans/Coord	96300	0	0	0	0	0	0	0	0	1	1
Total		**8**	**3**	**0**	**0**	**9**	**1**	**7**	**8**	**57**	**93**

82

APPENDIX C: ACRONYMS

ADS	Activity Data Sheet
AIP	Agreement In Principle
ALARA	As Low As Reasonably Attainable
AOC	Area of Concern
ARAR	Applicable or Relevant and Appropriate Requirements
ASRP	Accelerated Sludge Removal Project
BAT	Best Available Technology
BCP	Baseline Change Proposal
BOA	Basic Ordering Agreement
BRAP	Baseline Risk Assessment Plan
CDH	Colorado Department of Health
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CHWA	Colorado Hazardous Waste Act
CI	Continuous Improvement
CMS	Corrective Measures Study
COC	Contaminant Of Concern
CPFM	Colloid Polishing Filter Method
CPT	Cone Penetrometer Testing
CRP	Community Relations Plan
CSU	Colorado State University
CWQCC	Colorado Water Quality Control Commission
CX	Categorical Exclusion
DAC	Derived Air Concentration
DD	Decision Document
D&D	Decontamination & Decommissioning
DCN	Document Change Notice
DLRP	Discharge Limits Radionuclides Plan
DNAPL	Dense Non-aqueous Phase Liquids
DOE	Department of Energy
DQO	Data Quality Objectives
DVP	Data Validation Plan
E&WM	Environmental and Waste Management
EA	Environmental Assessment
EE	Environmental Evaluation
EM	Environmental Management
END	Environmental NEPA Division
EPA	Environmental Protection Agency
EQS	Environmental Quality Support
ER	Environmental Restoration
ERA	Ecological Risk Assessment
ERM	Environmental Restoration Management
ESA	Endangered Species Act
ESE	Environmental Science and Engineering

93

FIDLER	Field Instrument for Detection of Low Energy Radiation
FOM	Facilities Operations Management
FS	Feasibility Study
FSP	Field Sampling Plan
FTU	Field Treatability Unit
FYP	Five-Year Plan
GAC	Granular Activated Carbon
GIS	Geographic Information System
GPR	Ground Penetrating Radar
H&S	Health and Safety
HAP	Health Advisory Panel
HGMS	High Gradient Magnetic Separation
HHRA	Human Health Risk Assessment
HPGe	High Purity Germanium
HQ	Headquarters
HRR	Historical Release Report
HSP	Health and Safety Plan
IA	Industrial Area
IAG	Interagency Agreement
ICP-MS	Inductively Coupled Plasma Mass Spectrometer
ID	Integrated Demonstration
IDM	Investigative Derived Material
IHSS	Individual Hazardous Substance Site
IM	Interim Measure
IRA	Interim Remedial Action
IRAP	Interim Remedial Action Plan
ITS	Interceptor Trench System
IWCP	Integrated Work Control Package
IX	Ion Exchange
LANL	Los Alamos National Laboratory
LATO	Los Alamos Technology Office
LL	Low-level
LLMW	Low-level Mixed Waste
MOU	Memorandum of Understanding
MTS	Master Task Subcontract
MSA	Major Systems Acquisition
MSVEU	Mobile Soil Vapor Extraction Unit
NaI	Sodium Iodide
NAPLs	Non-Aqueous Phase Liquids
NEPA	National Environmental Policy Act
NFAJ	No Further Action Justification
NRDA	Natural Resource Damage Assessment
NTS	Nevada Test Site
O&M	Operations and Management
OPWL	Original Process Waste Line
ORR	Operational Readiness Review
OTD	Office of Technology Development
OU	Operable Unit

84

PA	Protected Area
PAC	Potential Area of Concern
PCB	Polychlorinated biphenyl
PCCB	Plant Change Control Board
PCP	Process Control Plan
PIT	Process Improvement Team
PMF	probable maximum flood
PP	Proposed Plan
ppb	Parts per billion
PPCD	Plan for Prevention of Contaminant Dispersion
PPE	Personal Protective Equipment
PRG	Preliminary Remediation Goals
PU&D	Property Utilization and Disposal
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QP	Quality Plan
RAGS	Risk Assessment Guidance for Superfund
RCA	Radiological Control Area
RCRA	Resource Conservation and Recovery Act
RFEDS	Rocky Flats Environmental Database System
RFI	RCRA Facilities Investigation
RFP	Rocky Flats Plant
RI	Remedial Investigation
ROD	Record of Decision
RPP	Resource Protection Program
RPT	Radiological Protection Technician
SA	Special Assessment
SAP	Sample and Analytical Plan
SAR	Safety Analysis Report
SID	South Interceptor Ditch
SITE	Superfund Innovative Technology Evaluation
SLPP	Standley Lake Protection Project
SMO	Sample Management Office
SOP	Standard Operating Procedure
SOW	Statement of Work
SPPO	Solar Ponds Program Office
STP	Sewage Treatment Plant
SW	Surface Water
TCE	Trichloroethene
TDS	Total Dissolved Solids
TIE	Technology Information in Exchange
TM	Technical Memorandum
TRG	Technical Review Group
TSR	Treatability Study Report
TSS	Total Suspended Solids
UBC	Under Building Contaminations
USFWS	United States Fish and Wildlife Service
UV	Ultraviolet
VOA	Volatile Organic Analyte

VOC	Volatile Organic Compound
WBS	Work Breakdown Structure
WS	Waste Solidification